

Delay in Soil Bank Decisions Creates Air of Uncertainty

**Politics Influence
Congressional Action
On Important Measure**

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON, D.C.—Sales planning for the 1957 season is being made unusually complex for the pesticide and fertilizer industries, through the uncertainties of what is to be done about the soil bank. Politicking, log-rolling, and plain foot dragging in Congressional halls have complicated the picture, and as matters stood at the end of last week, Congress was tangled in a squabble in the House over a Democratic version of soil bank legislation.

This majority has taken advantage of the urgent need for corn acreage legislation and had tacked onto this need a new slant on the soil bank which it is asserted will actually increase feed grain production in this coming year. This would be the case even if compliance is made with the conditions for soil bank participation.

On the Senate side, the majority chairman of the Senate Agriculture Committee has been unwilling to

(Continued on page 5)

Anhydrous, Ammonium Nitrate Output Shows December Increase

WASHINGTON — December production of synthetic anhydrous ammonia totaled 290,512 short tons, a 10% gain over November output of 264,436 short tons, the U.S. Department of Commerce has reported. Production of ammonium nitrate, original solution (100% NH_4NO_3) in December was 196,341 short tons, up 4% over November output of 172,452 short tons.

Phosphoric acid (50% H_3PO_4) output in December amounted to 275,111 short tons, down 1% from 279,192 short tons in November, and nitric acid (100% HNO_3) production was 219,823 short tons in December, up 12% over 196,831 short tons in November.

National Potash Places Refinery, Mine in Operation

(PHOTO ON PAGE 5)

NEW YORK—National Potash Co. has placed in operation its mine and refinery near Carlsbad, N.M., it was announced Feb. 19 by Richard C. Wells, president.

Initial shipments of potash were made from the new facilities which took two years to complete and cost approximately \$17,500,000. Designed capacity is 400,000 tons of high grade muriate of potash annually.

National Potash is owned jointly by Freeport Sulphur Co. and Pittsburgh Consolidation Coal Co. The former is the second largest producer of sulphur and the latter a major producer of bituminous coal.

In addition to the refinery, facilities include two 1,800-foot deep shafts—the deepest in the U.S. potash industry—plus a 21-mile water pipeline and product storage buildings having a capacity in excess of 100,000 tons. Mining operations are highly mechanized with much of the machinery specially designed for the purpose.

National's sales department, headed by William B. Porterfield, Jr., vice president, has established a regional office at 212 Bell Bldg., Montgomery, Ala. and it has representatives throughout the country. National is offering fertilizer manufacturers a coarse product of minus 10 plus 28 mesh and a standard product of minus 28, both guaranteed 60% K_2O minimum, Mr. Wells said.

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Agronomic Factors in Fertilizer Test Work Cited at Conference

By LAWRENCE A. LONG
Editor of Croplife

CHICAGO—College agronomists from 13 midwestern states met with representatives of the fertilizer industry at their ninth annual joint meeting sponsored by the Middle West Soil Improvement Committee. Application problems, soil tilth, plant food efficiency under different conditions and the relationship of fertilizer application in producing higher protein feeds were among the topics on

the two-day agenda, Feb. 14-15. Meeting headquarters were at the Edgewater Beach Hotel.

Zenas H. Beers, executive secretary of the MWSIC, told the group that farmers in the corn belt are using three times more fertilizer today than they did at the end of World War II. He added that while the actual tonnage of fertilizer is of great importance, the fact that more nutrients are contained in each ton is of particular significance. "This trend has heightened the need for accurate placement of fertilizer in the soil where it can help most in relation to the seed," he said.

Mr. Beers pointed out that complaints of injury to germinating seedlings of corn and small grains due to poor fertilizer placement have been increasingly frequent in recent years. Much of the placement equipment now in use on corn belt farms was not designed for today's fertilizer, nor for the speeds at which modern tractors are driven over the field.

"If we are to get top efficiency and profits from fertilizer use and avoid the hazards of germination injury," he said, "we need widespread use of equipment designed for present day fertilizer."

"Such equipment is available today, but not very many farmers know this. Hence, we need to convince the farmer who buys machinery that accurate placement is worth money to him; and we need to convince him that he should ask for such placement equipment."

Mr. Beers said that the fertilizer industry will cooperate with implement manufacturers and with Midwestern agricultural colleges in an educational program to provide farmers with information on what good placement equipment can mean to them.

Dr. Leo F. Puhr, South Dakota State College agronomist, reported that hay yields were boosted as much as 2½ tons an acre and protein pro-

(Continued on page 20)

Southern Nitrogen Starts Production At Georgia Plant

(PHOTO ON PAGE 20)

SAVANNAH, GA.—Southern Nitrogen Co., Inc. has entered the first stage of production at its new \$14,000,000 nitrogen manufacturing plant here following dedication ceremonies, according to John R. Riley, president.

The plant is now producing ammonia and will be producing nitrogen manufacturing solutions by March and solid "Dixie" ammonium nitrate by April. Ammonia capacity is 250 tons a day.

Southern Nitrogen is the only nitrogen manufacturer in the heart of the southeast, company officials said. Primary distribution will be to Florida, Georgia, the Carolinas and some parts of Alabama, Tennessee, Virginia and Kentucky.

Acreage Reserve Sign-Ups Total 13.5 Million Acres

WASHINGTON — As of Feb. 8 farmers had signed agreements under the 1957 acreage reserve part of the soil bank that covered 13,533,570 acres. This acreage included 644,767 acres of corn, 1,475,840 acres of cotton, 77,498 acres of rice, 33,549 acres of tobacco and 11,301,916 acres of wheat.

Doane Survey Sees One Million Ton Gain in 1957 Fertilizer Sales

ST. LOUIS—American farmers will buy one million more tons of fertilizer in 1957 than they did in 1956, according to a nationwide survey conducted by the Doane Agricultural Service, Inc., through its Countrywide Farm Panels, representing a cross-section of the nation's 2,100,000 full-time farm families.

Farmers plan to buy 4.7% more fertilizer this year than they did last year. A similar survey sent to these panel members last year showed

that fertilizer sales would be down 4.5% from 1955. Latest U.S. Department of Agriculture figures on fertilizer consumption show that the actual decline from July 1, 1955 through June 30, 1956 was down 4.41%. Other private estimates place the decrease for the calendar year 1956 at approximately 3%.

This survey also showed that 1.5 million farmers will use some type of agricultural chemicals in 1957. Seventy nine percent of the panel members

plan to use chemicals in 1957—a 1% increase over last year.

Three percent fewer farmers planned to purchase veterinary supplies and animal health products in 1957. Ninety one percent of those surveyed used one or more of these products in 1956, but only 88% plan to purchase them in 1957.

The Doane Countrywide Farm Panel is the nation's largest agricultural survey organization, containing a balanced cross-section of the na-

tion's 2,100,000 full-time farm families having a gross annual farm income of \$2,500 or more, and producing 87% of all farm products sold.

The questionnaires asking farmers to show their plans to purchase fertilizer and agricultural chemicals, as compared with last year, were mailed out Jan. 28. As of this date, the number of usable returns is 1,556 or 79%.

On a regional basis, the survey

(Continued on page 17)



HEAD COLORADO GROUP—New officers in the Colorado Agricultural Chemicals Assn. are shown above as they got together at the sixth annual meeting of the association. From left to right are Irwin C. Elliott, Chemagro Corp., Denver, president; H. C. Hansen, General Chemical Division, Allied Chemical & Dye Corp., Denver, secretary-treasurer, and Frank J. Randall, C. D. Smith Co., Grand Junction, Col., vice president.

Colorado Group Emphasizes Need To Read Labels

DENVER — Committee reports, recommendations for pesticide use and the matter of getting pesticide users to read and heed label instructions were topics discussed at the 6th annual meeting of the Colorado Agricultural Chemicals Assn., held at the Cosmopolitan Hotel here Jan. 25. Special emphasis was laid on the label education phase of the discussions, particularly in regard to Miller Bill provisions for minimum residues.

Speakers appearing on the program included a representative of the Food and Drug Administration, of the state agricultural commission, and the pesticide industry. Officers were elected at the one-day session as follows:

Irwin C. Elliott, district sales repre-

sentative for Chemagro Corp., Denver, president. Mr. Elliott succeeded Howard M. Lair, Eaton, Col.

Frank J. Randall, of the C. D. Smith Co., Grand Junction, Col., vice president; and H. C. Hansen, manager, General Chemical Div., Allied Chemical & Dye Corp., Denver, secretary-treasurer.

Two new directors were also named at the meeting. They were Harold Mankoff, Mannco Chemical Co., Denver; and Mike Priola, Shell Chemical Corp., Overland Park, Kan.

Paul W. Swisher, commissioner of agriculture for the State of Colorado headed a clearing committee which goes over the pesticide recommendations for the coming season and provides an opportunity for representatives of the industry to be heard in this connection. Reports of experiments at the State College were presented, as were committee reports covering insecticides, fungicides, rodenticides, and other matters such as convention programming and publicity for the association.

R. L. Horst of the Food and Drug Administration assured the group that the FDA is eager to work with the industry in keeping residues of pesticidal chemicals on raw agricultural products below the announced tolerances.

D. L. Paterson of Boettcher & Co., Denver, spoke on the subject of "Business in 1957," pointing out that prospects are good for the year in most fields. Business is expanding, he pointed out, with the chemical industry making unusual plans for plant expansions during 1957. He predicted that sales in many chemical fields should double in the next five years.

University of California Offers Agricultural Pilot Training Course

DAVIS, CAL.—A new agricultural pilot training course will be offered at Davis by University of California Extension during the spring semester.

According to Norman B. Akesson, associate professor of agricultural engineering at Davis, the object is to train commercial pilots in the aerial application of agricultural materials and, incidentally, to train others connected with aerial application in related biological and mechanical subjects.

The course will be divided into two parts. Flight instruction and field operation training will be given in either a Piper PA18A or Stearman aircraft, or both, as the student desires. The full course will include about 30 flight hours. Experienced pilots may take a shorter course of 15 hours or less.

Flight training will be at the University Airport which has a 3,200-foot landing strip.

The second part of the course, classroom instruction and laboratory work, will total about 100 hours.

Cost of the course will vary from \$657 to \$867, depending upon type of aircraft chosen. The cost for classroom instruction, without flying, will be \$267. Experienced pilots who require less flying instruction will have lower costs.

Registration took place, Feb. 23, at the Davis campus. Classes were to begin Feb. 25, and will extend through March 9, 1957. Lodging and meals are available at Davis. The course was to be offered only if at least 15 students registered.

IRRIGATION RETURNS

AUBURN, ALA.—Lawrence E. Enloe, Alabama Polytechnic Institute extension engineer, reports that at Auburn 18 different vegetable crops in 1956 years showed an average increase of 35% because of irrigation, or an annual \$122 net increase for each acre over non-irrigated truck crops.

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INSECT AND PLANT DISEASE NOTES

Boll Weevil Hibernation High in Tennessee

KNOXVILLE, TENN. — Hibernation studies of the boll weevil, recently completed in Tennessee, indicate that an average of 930 weevils per acre went into hibernation last fall. The counts ran from 0 to 5,000 an acre. It was pointed out by the University of Tennessee that although the average count is about the same as last year's 900 an acre, the maximum count of 5,000 an acre in some fields is much higher than last year's high count of 3,200 an acre.

There are heavy scattered infestations in the southern tier of counties and slightly into the second tier in West Tennessee. Above this line and up to a line east and west

running roughly through Jackson, Tenn., there are scattered light infestations.

The effect of this population for next year cannot be estimated at this time. A survey will be made in the spring to determine the extent of this winter survival. There will, however, be many weevils to survive no matter what the weather. Many of them in low areas will drown, however.—R. P. Mullett.

Blue Mold Warnings Are Sounded in Virginia

BLACKSBURG, VA. — The season's first warnings of tobacco blue mold are now being sounded in Virginia after its appearance early in February in Florida and Georgia.

The disease, which when not con-

trolled can devastate the tobacco crop, developed in both new and old beds during the period from Jan. 21 to Feb. 16 in several Georgia counties.

In Florida, blue mold was found in a new bed of cigar-wrapper tobacco sowed Dec. 21. The disease apparently had been present since the middle of January.

Virginia growers have done a fairly good job of controlling blue mold the past few years, and the advice to them again is to "get read."

Fire Ants Spreading in Mississippi Counties

STATE COLLEGE, MISS. — Imported fire ants are spreading westward and northward each year in Mississippi, entomologists of the agricultural extension service have warned.

The ants, which build mounds that reach heights of over two

feet in some areas, severely damage mowing equipment and vegetable crops, attack newly-born animals and inflict painful bites on human beings.

In Mississippi, the mound-building ant is found in the eastern part of the state as far north as Lee County. It has spread westward to Winston County and Hinds County and is found throughout the southern third of the state.

Field Activity Gains in Mid-South

MEMPHIS — Warm, spring-like weather brought increased field activity on Mid-South farms last week and permitted farmers to turn cattle on winter pastures.

Extension officials in Arkansas, Mississippi, Missouri and Tennessee said the warm weather was welcome, but some expressed fear it might last too long and would be followed by a freeze.

If the warm weather continues, fruit trees will begin to bud and a late freeze would kill them and the fruit crop for the year, officials said.

Land preparation and other early spring jobs got under way in many parts of Mississippi, the Agricultural Extension Service reported. Many farmers are sending soil samples to the state soils-testing laboratory for fertilizer recommendations.

Arkansas farmers got in a few days of plowing as skies cleared after weeks of wetness and the weather warmed up. In the next few weeks plowing and land-breaking activities are expected to increase sharply. C. V. Vines of Little Rock, associate director of the Arkansas Agricultural Extension Service, said.

Mr. Vines said the unseasonably warm weather of last week had started some fruit tree buds to swelling, but not to a "dangerous stage." He said farmers probably will show another increase in soybean acreage this year, while cotton and rice probably will remain about the same.

Field erosion caused by excess rain "run off" in areas with poor terracing and drainage ditches was reported in West Tennessee. Clarence Daniels, Soil Conservation Service engineer, said farms with proper terracing and waterways show very little erosion damage and top soil loss from the near record rainfall this year.

Stock ponds all over West Tennessee are reported full from the downpour, he said.

Wet weather is delaying the setting of strawberry plants throughout West Tennessee, horticulturists report. Many farmers have delayed the delivery of plants because rain have prevented the necessary land preparations. Experts advise the plants should be planted by early March at least.

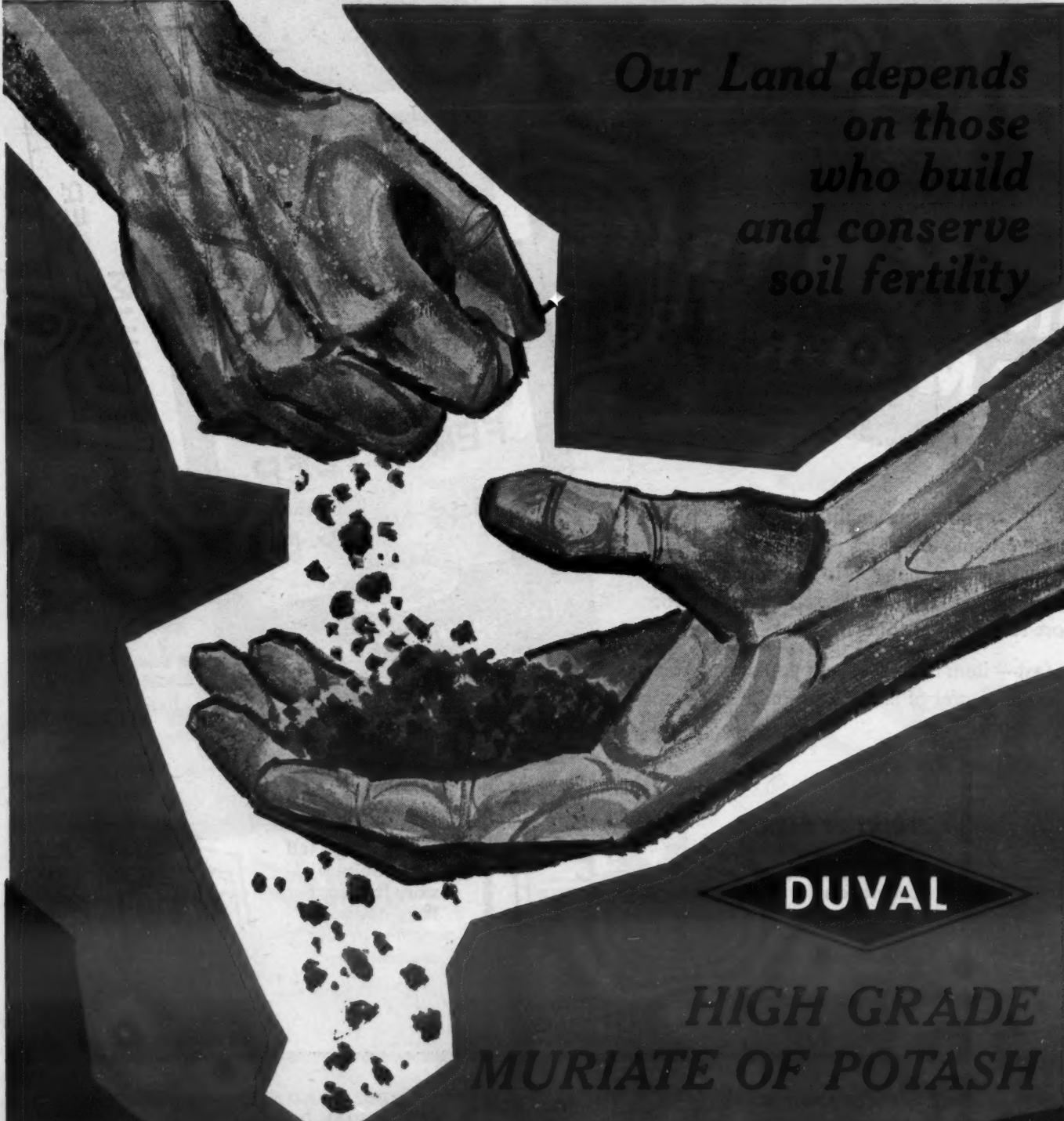
Some crops in the Bootheel area of Missouri, notably wheat, are being sprayed with nitrogen from airplanes. Planes, while not being used extensively in the area, are being employed now because land machinery can't work the fields because of dampness.

Early Planting

AUSTIN, TEXAS—Early planting in 22 South Texas counties has been approved by John White, agricultural commissioner. This is three weeks earlier than the March 5 date set previously, but will allow farmers to take advantage of the recent unexpected rains that came to the area. The mandatory planting date of cotton had been in effect because of the pink bollworm threat.

SHADE TREE SHORT COURSE

ST. PAUL—A shade tree short course will be held on the St. Paul campus of the University of Minnesota, March 5-6.



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SOIL BANK

(Continued from page 1)

open hearings on corn legislation or the soil bank, while on the Senate Republican side, hope dwindles daily that any effective and corrective corn acreage legislation can get through Congress before farmers complete their planting intentions.

In the meantime, there are a few positive indications now showing which may help the plant food and pesticide industries to plan for the year ahead.

Soil bank officials told Croplife that on the basis of recent reports it seems probable that cotton farmers will withdraw better than 4 million cotton crop acres for contribution to the soil bank program.

Likewise, they see a strangely favorable response from corn belt farmers who are also disclosing interest in the soil bank.

Those farmers already signing up for the soil bank in the commercial corn belt are in nine states on the fringe of the commercial corn belt including, Kentucky, Tennessee, Nebraska and Missouri, among others.

Soil bank officials believe that these acres which are headed for the soil bank are largely poor producing lands which probably normally farmers would never plant to corn, except for the fact that the location of their counties has fortuitously put them into a commercial corn category.

With cotton, however, the extent of soil bank participation as now indicated poses some large problems for the pesticide and plant food industries.

The indicated more than 4 million acre sign-up in the cotton economy for the soil bank would be approximately 20% of the allotment acreage—a sizeable chunk of cotton land.

The rates of payment for cotton contributions to the soil bank this year will be at the rate of 15¢ a pound times average yield per acre. This, according to USDA soil bank executives, is fixed for soil bank purposes at approximately 360 lb. an acre on a national basis.

The issue seems to boil down to whether the cotton farmer who goes in to the soil bank will use part of those payments to buy additional plant foods and pesticides to beef up his yields this year.

Certainly a reduction of approximately 20% of cotton acreage where fertilizer application has been well done may make a big dent in the total plant food tonnage to that crop this year. Will the cotton farmer venture some part of the soil bank payments to fertilize to the maximum, or will he stick to past practices and pocket the soil bank cash payments? That is the question.

For the corn soil bank and the corn acreage problem, the whole issue is tangled in a most discordant mess in the House.

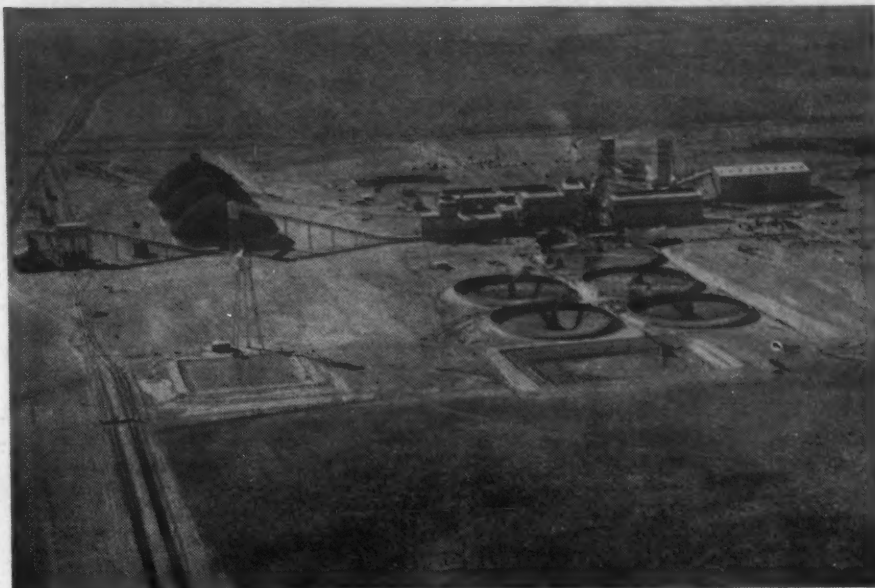
The House agriculture committee last week approved a corn acreage allotment of approximately 43.5 million acres for soil bank purposes, but wrapped into the bill a provision most unsatisfactory to the administration. This measure is one which previously was said by Marvin McMain, assistant secretary, to be headed for a White House veto, if passed.

The House Democratic majority-sponsored bill attempts to write into the soil bank a provision which would bring virtually every farmer into the soil bank if he makes some contribution to the soil bank acreage reserve program. Payments would be on the rate of payment for

corn grown on land taken out of feed grain production, and would include as eligible wheat land exempt from acreage allotments under the AAA act where wheat farms grow 15 acres or less of wheat.

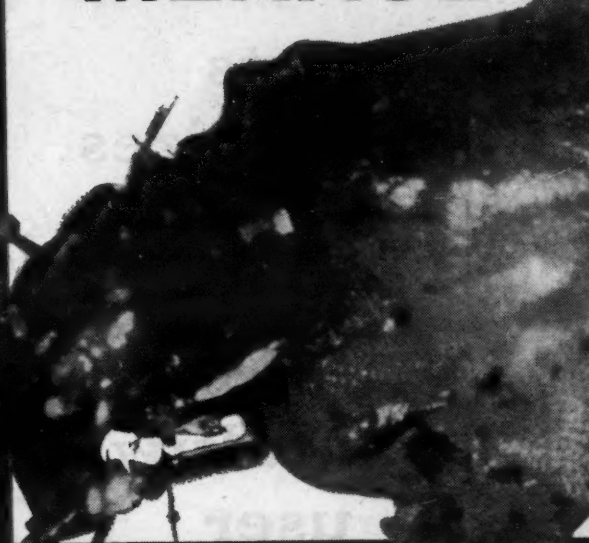
An early analysis of the House bill as approved by the committee of USDA experts as described to Croplife means that not only would there be no reduction in feed grain production if the soil bank provisions were complied with, but there probably would be an actual increase in those crops.

As things now stand, the only solid base for the chemical industry to work from is the probable condition of cotton acreage and even that is subject to qualifications if the recent rains in Texas persuade farmers to get out of the soil bank and plant a crop.



NATIONAL POTASH PLANT—Shipments of potash were begun recently from National Potash Co.'s new mine near Carlsbad, N.M. From left to right are the shipping facilities, the product storage buildings, the refinery and the two head frames, and, in the foreground, the five thickeners. Story on page 1.

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WORLD REPORT

By **GEORGE E. SWARBRECK**
Croplife Canadian and Overseas Editor

New U.K. Plant

Considerable progress has been made in the construction of a new nitrogenous fertilizer plant for Fisons, Ltd. at Stanford-le-Hope on the Thames estuary, east of London. Cost of the project has been estimated at the equivalent of \$12.6 million.

Fisons has announced the award of a contract to Chemical and Industrial International, Ltd. of Nassau in the Bahamas, for the construction of a 250-ton a day nitric acid plant to be put on the 25 acre site. This plant

has been designed by Chemical and Industrial Corp. of Cincinnati, Ohio, and will be constructed by Chemical and Industrial International, Ltd.

The company says that the new plant is a single unit, high pressure nitric acid plant and is a departure from the usual European practice where for many years the atmospheric or medium pressure type nitric acid plant has been used.

Another new factory for the fertilizer business is also scheduled in Britain. It will be built at Misterton,

Lincolnshire, for the Farmers' Co., Ltd. of Barton-on-Humber. Granulated compound fertilizers will be produced, but no cost figures have been revealed. A laboratory and office have already been constructed on the site.

The firm is planning an extension of its Barton facilities, with a new building designed for the storage of phosphate rock. The rock grinding capacity was recently increased by the installation of further machinery and the company's superphosphate plant has also been extended.

German Potash

Potash fertilizer producers in Western Germany increased their sales by 10% in 1956 over 1955. Sales totaled 1,724,000 tons pure potash against 1,578,000 in the previous year. The home market took 949,000 tons against 898,000 tons while 786,000 tons moved into foreign outlets, an increase of 106,000 tons over 1955.

Subsidies provided by the govern-

ment gave impetus to business in Germany itself; the export trade was aided by the opening of new markets in Venezuela, the Philippines and eastern Asia.

U.K. Phosphate Imports

Britain imported 1,182,742 tons of mineral phosphates in 1956 against 1,132,274 tons in the previous year. French Morocco was the major supplier at 706,857 tons, an increase from the 1955 figure of 682,040 tons. U.K. participation in the business showed a major increase—from 142,952 tons in 1955 to 289,678 tons in 1956.

Mexican Development

Compania Exploradora del Istmo S.A., an affiliate of the Texas Gulf Sulphur Co., has begun the production of sulphur at its recently completed Frasch system extraction plant at Nopalapa, Veracruz in southern Mexico, reports Fred M. Nelson, president of the American firm.

Into the project have gone several years of exploration and development and \$10 million. Initial production is limited and does not indicate the capacity the company hopes to obtain in a short time. The sulphur deposits are located on an area of 13,000 acres. A contract for what the firm says is the world's first sea-going extraction plant, mounted on two barges, was awarded to Brown Root, Inc., construction engineers of Houston, Texas. The plant was towed to its operational site.

Cotton Production Practices to be Discussed At Phoenix Conference

PHOENIX, ARIZ.—A package of practices that aid farmers in getting and maintaining stands of cotton will be opened here during the Western Cotton Production Conference March 4-5.

The practices will be presented in a session on the latest know-how obtaining and maintaining a stand of cotton. Dr. Philip J. Leyendecker, New Mexico A&M College, will lead the discussion and later will talk how such practices may be combined to lower production costs and improve quality.

The conference program is built around ways and means of reducing costs and improving quality. It is sponsored by the National Cotton Council and the Southwest Five State Cotton Growers Assn.

Leading off the discussion stands will be Lambert H. Wilkes, New Mexico A&M College. He will review techniques in seedbed preparation and planting for early stands as well as plant spacing and populations for early fruiting, high yield and minimum lodging.

Marvin Hoover, cotton specialist, California Agricultural Extension Service, Shafter, will describe agronomic factors contributing to a vigorous stand. Pros and cons of early planting, sources of seed, softening hard seed coats, pre-planting irrigation and the response of different soils to different forms of fertilization also will be covered.

How to control seedling diseases including nematodes, will be given by Dr. Harold W. Reynolds, nematologist, Cotton Research Center, Tempe, Ariz. He will discuss chemical treatments, tolerance, resistance to crop rotation and other factors that contribute to vigorous seedlings.

The problem of early season insect control will be discussed by Dr. N. Roney, entomologist with the Arizona Agricultural Extension Service. Use of systemic insecticides will be included in this topic.

Some 500 growers, educators, search workers and others interested in cotton production are expected to attend the conference. It will be held at the Hotel Westward with the Arizona Cotton Growers Assn. as local host.

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facturer, Bolling then surveyed the company's complete bagging operation. The new Specifications Manual was one of the results. Savings are expected to run well over \$100,000.

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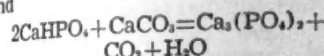
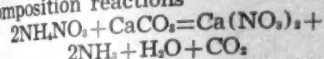
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Industry Patents

2,781,254

Method of Manufacturing a Chemical Fertilizer from Sludge, Containing Ammonium Nitrate, Dicalcium Phosphate, and Calcium Carbonate. Patent issued Feb. 12, 1957, to Eiji Munekata, Kenji Doi, and Toshinori Onodera, Tsunetomi, Nobeoka, Miyazaki-ken, Japan, assignors to Asahi Chemical Industry Co., Ltd., Osaka, Japan. A method of manufacturing a dry chemical fertilizer from sludge comprising essentially ammonium nitrate, dicalcium phosphate and calcium carbonate, and from 15 to 45% water, and which is subject to decomposition reactions



which tend to take place upon heating in the presence of water and thereby result in the loss of fertilizer values, which comprises drying said sludge by spraying into a heated air flow containing carbonic acid gas in an amount less than that theoretically required to achieve equilibrium but sufficient to suppress the said reactions, said spraying and drying being substantially completed before the decomposition reactions can take place and being effected at a temperature from 160 to 180° C.

2,781,289

Fungicidal Coating Composition Containing Thianaphthene Carboxylic Acid Salt. Patent issued Feb. 12, 1957, to Otto C. Elmer, Fishkill, and Edward R. Christensen, Beacon, N.Y., assignors to the Texas Co., New York. Fungicidal compositions comprising a liquid carrier, 0.1 to 10% of a metal salt of thianaphthene carboxylic acid selected from the group consisting of the copper, zinc, lead, and sodium salts, and 1 to 10% of a detergent selected from the group consisting of alkali metal and alkaline earth metal salts of fatty acids, of alkaryl sulfonates, and of alkyl sulfates.

Trademarks

Circular Design with Initials "BASF," outline of animals, and the date, 1865, for insecticides, fungicides, weed killing agents. Filed March 29, 1955, by Badische Anilin & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. (Published in Official Gazette of Feb. 12, 1957)

Wise Bird, drawing of an owl, for fertilizer material for tobacco plants. Filed Jan. 19, 1956, by W. R. Grace & Co., New York. First use April 13, 1939. (Published in Official Gazette Feb. 12, 1957)

Scanty Rainfall May Increase Insect Damage

SAN FRANCISCO—Scanty rainfall during the past fall and winter season in California may mean an increase in insect damage to California fruit growers during the spring and summer, warn Stewart Lockwood and C. G. Weigle of the California State Department of Agriculture.

In some instances, growers have been unable to make customary applications of dormant sprays, and further some pests flourish when rainfall is low, they said in a statement to members of the California Farm Bureau Federation.

The agricultural specialists advise treating plants with chemicals before fruiting. Chemical control is a necessity, they say, even after effective clean up jobs of weeds which act as hosts to the pests. Mr. Lockwood and Mr. Weigle made their statement upon presenting to members of the Federation a time schedule of delayed dormant sprays and summer

Michigan State to Print Recommendation Tables

EAST LANSING, MICH.—A set of tables to help Michigan farmers understand fertilizer recommendations will be published soon in a new Michigan State University fertilizer bulletin.

That report was given by R. E. Lucas, Michigan State University, co-operative extension specialist in soil science, in his address to the annual Conference of Fieldmen and Processors at Michigan State University recently.

The new tables, to be used as standard guides for county agricultural agents and farmers, will consider extractant used, soil type and crop grown, he explained.

The compilation of the tables is an outgrowth of the MSU soil testing program to estimate fertilizer requirements. University specialists annually test over 50,000 soil samples in Michigan.



PEST CONTROL GROUP—Officers of the newly-organized South Carolina Pest Control Assn., which met in Columbia recently, are (seated) Don Holt of Columbia, secretary-treasurer; S. D. Braswell of Spartanburg, president; W. G. Ford of Charleston, vice president; and, standing, directors F. R. Gressette of Charlotte, John Lark of Spartanburg, T. D. Knox, Jr. of Columbia, Fred P. Wright of Aiken, and L. E. Gosnell of Conway. The association adopted by-laws and constitution, and discussed at length a proposed licensing law for pest control operators.

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V-C Proposes Coal-Phosphate Rock Shipping Plan to Trim Freight Rates

RICHMOND, VA.—Virginia-Carolina Chemical Corp., a major shipper of phosphate rock from Florida, has proposed to two railway lines that a two-way arrangement to haul coal and phosphate rock would effect great savings in fuel costs for Florida and also substantially reduce freight costs for its phosphate shipments out of Florida.

William H. Wilson, V-C president, has asked both the Atlantic Coast Line and the Seaboard Air Line Railroads to consider the transportation of coal south into Florida, and phosphate on the return haul northward, thus reducing freight rates substantially.

In telegrams to the presidents of both lines, Mr. Wilson asked what his company may expect in the way of development of the two-way

hauls. He requested prompt action "as we desire to give serious consideration to the possibility of using water transportation ourselves if we cannot realize important economies by using the railroads."

At the same time, Mr. Wilson wired the Hon. Thruston Morton, United States Senator from Kentucky, to commend him for calling a meeting of coal, utility and railroad people with reference to the movement of Kentucky coal to Florida.

Mr. Wilson offered to have one of his company's top men in the phosphate industry attend the meeting, which was set for Feb. 26 in the Senator's office in Washington.

"The possibilities of substantial savings in fuel costs to the people of

Florida and important economic savings generally are great," Mr. Wilson wired the Senator.

The V-C president advised Florida Senators Spessard L. Holland and George A. Smathers of his action. He also sent copies of his message to the railroads, to the eight Florida Representatives, as well as leading power and light officials in the state.

Merck Gives Briefing On New Growth Product At Press Luncheon

NEW YORK—Representatives of the business and popular press were given a briefing on "Gibrel," the new plant growth booster, at a luncheon sponsored Feb. 18 by Merck & Co., Inc., Rahway, N.J.

The Merck organization is now marketing the potassium salt form of gibberellic acid to formulator-distributors on a nationwide basis, and the purpose of the luncheon was

to tell the press representative what Merck researchers and others have found out about the plant growth booster—what it will do and what is not known about it as yet.

Research work to date has been mainly with ornamental plants, and further research work is necessary before its use on food crops can be recommended, Merck said.

Preliminary results of recent work with food plants, it was stated, indicate that the product may also have far-reaching and economically important effects on such plants.

It was said that the plant growth booster stimulates certain crops to grow four times faster and to break dormancy, form flowers, set fruit and produce seed weeks and even months ahead of nature's schedule.

Use of the growth stimulant will require increased use of plant food to sustain the additional plant development.

Apparently Merck personnel recall the confusion and flood of extravagant claims in connection with the introduction of soil conditioners a few years ago, and to guard against a repetition of such incidents, Merck intends to maintain control of advertising claims made for the product by its formulators.

Each guest at the luncheon was supplied with a "do it yourself" kit containing two potted African violet plants and a small plastic spray bottle of the "Gibrel" solution. It was suggested that they take the plants back to their offices or homes and using one plant as a control, prove to their own satisfaction that "it really works."

Monsanto Expands Farm Chemical Marketing Area

ST. LOUIS—Monsanto Chemical Co. has announced that its new Radox and Vegadex brand farm chemicals for grassy weed control will be sold nationally under the company label during 1957.

Charles H. Sommer, Monsanto vice president and general manager of its Organic Chemicals Division, said that the new weed killers will be marketed exclusively by Monsanto "in all states producing crops of which the use of the compounds has been cleared."

Radox and Vegadex were cleared by the U.S. Department of Agriculture late last year for use on a combined total of 22 field and truck crops. Almost all states produce one or more of these crops.

Mr. Sommer also said that the marketing area for the regular line of Monsanto farm chemicals (broadleaved weed killers, insecticides, etc.) has been increased this year to a total of 35 states with the addition of eastern and northwestern sales districts.

States in which the Monsanto labelled farm chemicals will be appearing for the first time in 1957 are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Delaware, Maryland, West Virginia, Virginia, Washington, Oregon, Idaho and Montana.

"The success of our initial marketing of farm chemicals in midwestern states last year justified an expanded marketing area in 1957," Mr. Sommer said.

The company's Radox and Vegadex are among the first developments of the company's farm chemicals research to reach market exclusively under the Monsanto label. In addition to the marketing of the compounds in all states, the company is pointing efforts toward sale of the compounds under its label in Canada.



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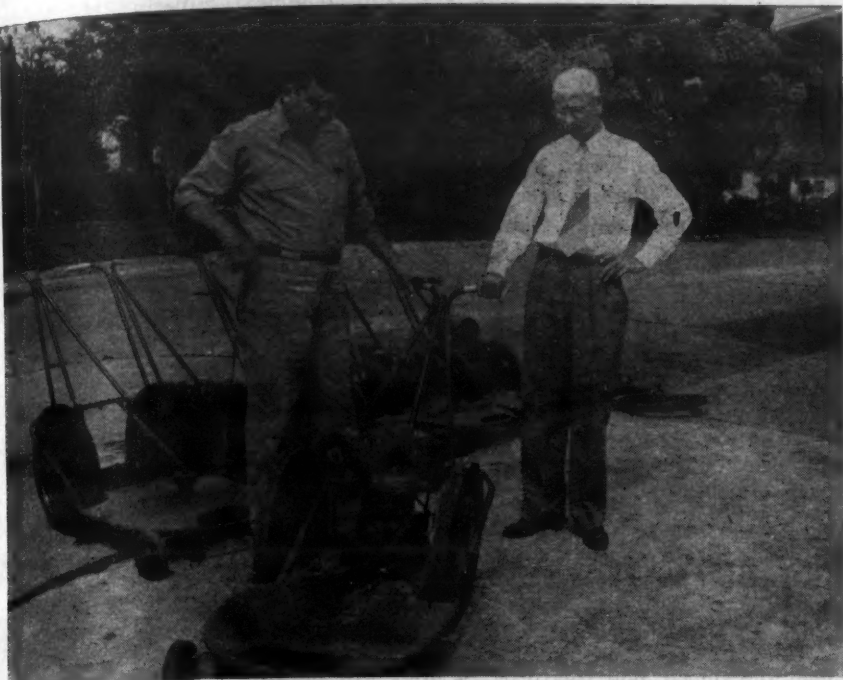
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TAMPA, FLA.—3737 Neptune St.
TULSA, OKLA.—1708 Ulca Square
WICHITA, KAN.—501 KPH Building



ALABAMA DEALERS—Shown above are Carl Robinson, left, and W. J. Castleberry, partners in the Mobile Seed & Supply Co., Mobile, Ala., looking over several of their rental power mowers. With such related services, good display and sound salesmanship, the partners have seen a steady growth in their sales volume.

RELATED LINES HELP

Alabama Farm, Garden Supply Company Enjoys Rapid Growth

By AL P. NELSON
Croplife Special Writer

When W. J. Castleberry and his brother-in-law, Carl Robinson, pooled resources about six years ago and opened the Mobile Seed & Supply Co., Mobile, Ala., they had no idea that their business would grow so rapidly. But it did, showing the need for fertilizer and other garden and farm supplies. The partners backed up the products by good display and salesmanship, and today their small store is almost outgrown as far as space is concerned.

Both men have had previous experience in the seed and fertilizer business and they are putting this to good effect in this business of their own. For example, one of them will visit gardens, farms and homes upon request to look at the condition of a garden and advise as to fertilizer, seed, planting and insecticides. The store will also send one of the partners to visit a farm and advise similarly. And the same service extends to lawns.

Naturally, not too many customers expect this service, but the mere fact that it is available, and customers know about it, creates much good will and makes many people want to come and buy at a store like that.

Mr. Castleberry reports that the store sells fertilizer in bags from 5 to 100 lb. The variety of size packages helps in satisfying customers, some of whom pick up their own 10 lb. bags and bring them to the check out counter.

"Our activity really starts with seeds and then we carry through with fertilizer, garden and lawn tools, power mowers, and insecticides and sprayers," reports Mr. Castleberry. "Home owners down this way, because of the 12 month outdoor season, may buy from \$100 to \$400 worth of merchandise from us in a year, depending on the size of the home grounds, garden or small farm. And

most of this small lot business is cash, which simplifies the credit problem for us."

Mr. Castleberry reports that while he and his partner will recommend certain insect problems, they will not do custom spraying. They recommend certain nurseries to do this work. In turn some of these nurseries buy many of their materials at the Mobile Seed & Supply Co.

"The sales and use of fungicides and insecticides here are a year around proposition because of the warm climate," says Mr. Castleberry. "We have them in stock and on display all year and we sell them every month. Naturally the heavy run on insecticides is in spring and summer, but many weed and brush killers are sold in the fall."

On fertilizers which are sold to

(Continued on page 12)



SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

The idea of liming to correct soil acidity and the use of fertilizers are familiar concepts to most farmers. But the term "pH" as a measure of soil acidity is one of several concepts that need to be used with care when fertilizer dealers and salesmen are talking with or advertising to farmers.

That's the conclusion which can be drawn from the findings of farm information specialists at the University of Wisconsin who made a survey of farmers' practical knowledge of soils.

Communications researchers D. D. Sorenson, R. D. Powers and B. E. Kearl interviewed 148 farmers in four of the most productive soil areas of the state to test knowledge of nitrogen fixation, soil characteristics, fertilizer analysis, liming and acidity and fertilizer requirements.

Texas Company

Pushes Early Sales

STANTON, TEXAS—One way for the dealer to boost his fertilizer sales is to urge farmers to buy and use it early. Floyd Smith, manager of the Stanton Chemical Co., began early selling fertilizer for late winter and early spring use.

"I don't really know if they will make more cotton by putting it out early," Mr. Smith said, "but it works out better for them. By putting fertilizer down in February or March, the farmer is utilizing a slack period of the year. If he waits till planting time, he has a hundred things that need to be done at once. And he might just not get around to putting on his fertilizer."

Fertilizer has only been used in this irrigated cotton area for about five years, but every year the amount per acre has been increased. Last year most farmers averaged about 400 lb. per acre, and in 1957 the usage is expected to be more.

The Stanton Chemical Co. looks several months ahead, and starts stocking the year's fertilizer supply in plenty of time. Mr. Smith says yields have been steadily rising due to fertilizer and better insect control methods. This year several farmers made over two bales per acre, and some of it was with limited water.

More than 90% of the farmers interviewed understood the practical aspects of inoculation and nitrogen fixation in legumes. On the other hand, only 24% knew how the pH scale for soil acidity worked.

Farmers need more information on fertilizer analysis, too, the research shows.

The composition of a fertilizer is generally described by a set of numbers. For pastures, a fertilizer called 10-10-10 is often used. Other typical fertilizers are 3-12-12 and 0-20-20 and there are many other combinations.

About 60% of the farmers interviewed gave correct answers to questions testing knowledge of what the figures in these analyses mean. Substitution of one kind for another was somewhat better understood and 93% were aware that high analysis fertilizers are worth more, pound for pound, than those of low analysis, the findings revealed.

A group of general soils terms was also in the poorly understood group. Less than 60% of the farmers knew the meaning of such terms as "loam," "loess," and "per cent slope."

Knowledge of other soil subjects varied, the researchers found. About 80% knew what nitrogen deficiency in plants looks like, but only 30% could recognize a shortage of potash.

The South — Our Second Corn Belt?

EDITOR'S NOTE: The crop diversification plan has made great strides in the South in recent years. The accompanying article prepared by the Corn Industries Research Foundation, Inc., summarizes the gains made by the South in crop diversification, with special emphasis on corn.

More than a quarter century ago, in an Alabama city, the townspeople erected a monument to the cotton boll weevil. This quite extraordinary recognition of the pest whose depredations had caused serious economic loss throughout the South had a cogent reason behind it. The boll weevil, showing the folly of the one-crop philosophy of farming, had started the South on a crop diversification program. The insect that had eaten up cotton profits had

demonstrated, more convincingly than all the words of warning, that the way to agricultural prosperity lay only through less emphasis on cotton and more on corn, soybeans, livestock and poultry.

To those who are close to southern agriculture the wisdom of the crop diversification plan has been evident for years. Only recently, however, has the South's upsurge in corn, soybeans, cattle and poultry become so marked as to attract nationwide attention.

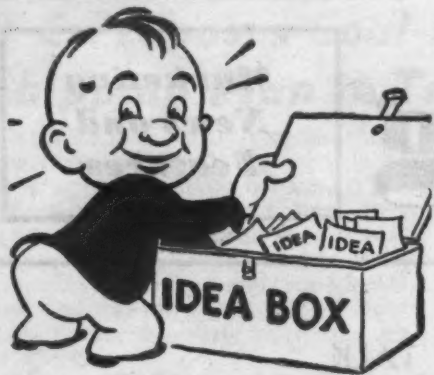
The South today has good reason to consider itself the second Corn Belt, as a glance at the score makes plain. The term "solid South" is more meaningful today in corn than in politics. The first 10 states in corn are still, to be sure, those midwestern commonwealths whose tradition in the golden grain is almost century old. Illinois, Iowa, Minnesota, Indi-

ana, Ohio, Missouri, Wisconsin, Nebraska, South Dakota and Michigan rank one to 10, in that order.

But following closely upon the heartland bloc of corn states is another contiguous area in the Southeast. Kentucky is number 11 in corn; North Carolina is number 12. Pennsylvania, ranking 13, cuts into the South's corn solidity, but the next five states in order are Georgia, Tennessee, Alabama, Virginia and Mississippi. Note that all of them are ahead of Kansas (in the 19th slot), a state whose eastern half has long been eminent in corn.

Significantly, the corn growing champion of the U.S. is a Mississippi 4-H Club boy. Caring meticulously for a single acre, fertilizing it heavily and irrigating it in times of drought, this Prentiss County lad has set out to show what corn can do and has

(Continued on page 15)



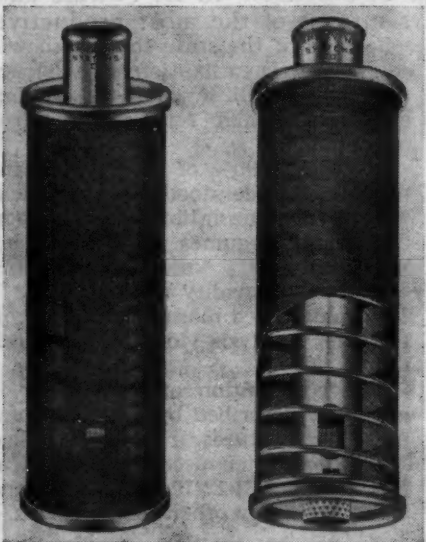
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6539—Suction Strainer

The Spraying Systems Co. has announced a new, low cost suction strainer for use in spray rig tanks. The strainer is made with either aluminum with a Monel screen or of stainless steel with a stainless steel



screen. Practically all farm chemicals may now be handled, including the balanced mixed fertilizers containing phosphoric acid, it is claimed. Fifty and 100 mesh sizes are offered. A

hose shank connection is supplied to fit either $\frac{1}{2}$ in. OD or $\frac{3}{4}$ in. OD rubber hose. The hose is slipped over the strainer hose shank and held with a hose clamp. No special fittings are needed. The strainer is easily disassembled for cleaning by turning a knurled screw in the strainer bottom, which releases all parts. It is claimed that the new No. 7130 suction strainer will fit through the opening of any standard container and permits withdrawal of solution to within 1 in. of the bottom. Secure complete details by checking No. 6539 on the coupon and mailing it to Croplife.

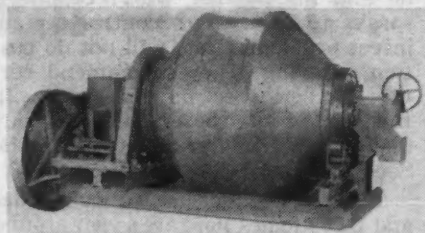
No. 6540—Plant Growth Stimulant

The availability of the new plant growth stimulant, gibberellic acid, is announced by S. B. Penick & Co. Company officials state that initial work indicates that on certain flowers and ornamentals, gibberellic acid will stimulate stem length and lateral growth, accelerate stem growth on cuttings, increase profusion of blooms, stimulate earlier blooming, promote flowering of plants tending to remain in the vegetative stage and induce flowering of biennials in the first year. Gibberellic acid was isolated by Japanese scientists working on the prevention of a rice disease. Further work by U.S. agricultural scientists indicated that "in only three to four

weeks plants treated with the chemical grew three times as tall as comparable untreated plants," the company announcement stated. Further information about gibberellic acid may be obtained by checking No. 6540 on the coupon and mailing it to Croplife.

No. 6541—Rotary Mixer

The Munson Mill Machinery Co. has announced new features of its rotary mixer used for the production of various fertilizers, insecticides and herbicides. Among the features claimed are: The mixer will blend powders and granules; it will not break up granular clays; spray pipes have been installed in the mixer to spray liquids on the dust or granular materials; the mixers are equipped with an internal vent pipe to expel toxic fumes; they are dust tight; the mixer drum may be heated and will transfer heat rapidly to the materials to be blended; a stream of cold air for cooling can be introduced into the mixers; they can be used to coat granular fertilizers with insecticide dusts; they will blend various chemical compounds into a homogeneous, accurate



mixture in a short period of time with no breakage in the particle size; the mixers are available from 20 to 250 cu. ft. mixing capacity. Pictured is style No. 7 Munson rotary batch mixer (gravity intake and gravity discharge). Secure full details by checking No. 6541 on the coupon and mailing it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

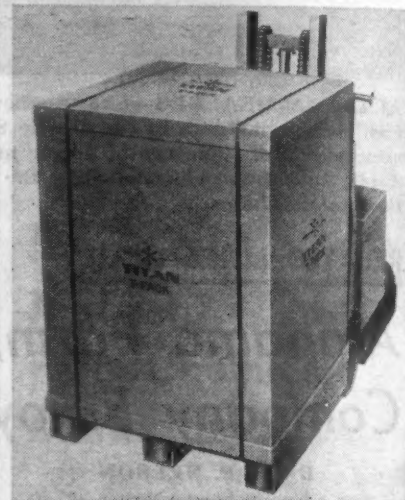
No. 6532—Bulletin

The Velsicol Chemical Corp. has issued a new, 16-page bulletin covering technical aspects of the firm's line of solvents for herbicides and insecticides. The bulletin is designed as an aid to formulators in selecting appropriate solvents for the various insecticide and herbicide formulations. Velsicol claims the following specific properties of the solvents covered in the bulletin: (1) Chemical compatibility with herbicides and both synthetic and botanical insecti-

cides. (2) A high solvency for insect toxicant materials and such herbicides as the 2,4-D and the 2,4,5-T esters. (3) Solutions of the insect toxicants and herbicides are stable over a wide temperature range. (4) The solvents have high flash points. (5) The solvents are non-corrosive to metals. (6) The high boiling range of these solvents (low volatility) favors the residual toxicity of the more volatile insecticides. For a copy of technical bulletin 214, "Velsicol Insecticide and Herbicide Solvents," check No. 6532 on the coupon and mail it to Croplife.

No. 5644—Bulk Materials Container

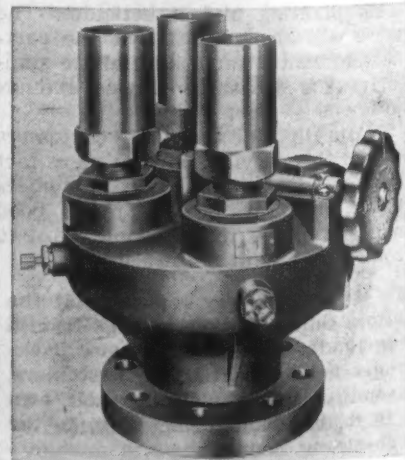
A new self-palletized and expendable bulk materials container called the T-Pack has been introduced by the Titan Pallet Co. Internally supported, the T-Pack includes a lid which can be strapped or taped for security (see photograph). It is designed to accommodate up to a ton, depending on material density, and is proportioned to stow snugly in standard boxcars and trailer trucks. Standard specifications are 35 in. by 35 in. by 48 in., which can be varied on particular requirements. The new unit is claimed to provide all the advantages of expendability, product



protection, economy and handling savings. Complete information on the container may be had by checking No. 5644 on the coupon and mailing it to this publication.

No. 6533—Relief Valve Manifolds

Ample safety relief capacity for larger anhydrous ammonia bulk storage tanks is claimed in a new pair of relief valve manifolds introduced by the Bastian-Blessing Co. Designated the "RegO A7564 and A7565 Relief Valve Manifolds," each model has a cast steel body with three ports and three RegO AA3135 aluminum relief valves. According to the manufacturer, any two of these re-



lief valves provide adequate relief capacity for all standard 18,000 and 30,000 gal. NH_3 tanks. Furthermore it was stated, any one of the three valves can be replaced while the tank is under pressure, avoiding necessity for evacuating the tank while removing valves for replacement or testing. The company also states that each new manifold has ample openings through the manifold body to

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assure negligible capacity loss. Rate of discharge at the various relief valve settings is said to be 11,200, 11,640 and 12,160 CFM of air. The manifolds differ only in their bolt circle diameter. Secure additional details by checking No. 6533 on the coupon and mailing it to Croplife.

No. 5645—Blower Attachment

A new attachment for Ace portable electric blowers is designated as Fan-



gard attachment No. 226, announces the Ace Co. Used in connection with other available suction attachments the unit converts the blowers into limited capacity tank type industrial vacuum cleaners. Nuts, screws, washers and scrap can be picked up safely without danger of damaging the fan or fan housing, it is claimed. "The complete portability of this type unit is important where cleaning is done from ladders, in elevator shafts or other places impossible to reach with conventional tank type industrial vacuum cleaners," say company officials. A catalog is available without charge. Check No. 5645 on the coupon and mail it to this publication.

No. 6534—Weed, Insect Control

The Chemical Insecticide Corp. has prepared literature on its product, called by the trade name, Chem-Vape, recently introduced. The product is called a "one shot treatment for the control of weeds and soil borne insects and diseases." It is a dithiocarbamate liquid and "one application properly applied prior to planting will insure effective control of the various grasses and broad leaf weeds including the seeds of these vegetable pests. This same application will also destroy nematodes, insects and fungi which are found in the soil," states the company's announcement. The product is said to have a low toxicity to warm blooded animal life and leaves the soil in a relatively short period of time. It is available in liquid form packed in 55-, 30-, 5- and 1-gal. containers. Secure the literature by checking No. 6534 on the coupon and mailing it to Croplife.

No. 6537—Apple Mildew Film

Apple mildew is the theme of a new, educational 16 mm sound motion picture, in color, produced by the department of plant pathology of Cornell University in cooperation with the Rohm & Haas Co. The film, which runs about 15 minutes, depicts the damage caused by powdery mildew and the geographical distribution and climate factors involved. The life cycle of the disease is shown in detail, considerable footage being devoted to photomicrography of infected buds and the conidial and perithecial stages. The importance of thorough and timely spraying for effective control is shown and the film suggests to apple growers that they consult their local extension service representatives or state experiment station for detailed recommendations. The film is intended to be of particular interest to fruit growers, pesticide

dealers, gardeners, county agents, vocational agriculture teachers and students. The film is suitable for television presentation and for showing at meetings sponsored by public agencies. Secure complete information by checking No. 6537 on the coupon and mailing it to Croplife.

No. 6535—Crow Repellent

A deer and rabbit repellent which is marketed by Larvacide Products, Inc., has been found to be most effective as a crow repellent, according to advice from the company. The use of Larvacide's Z.I.P. for crows first became of interest in connection with experimentation by the Connecticut agricultural experiment station which was determining methods of reducing losses in the production of hybrid corn. Since then work also has been done at Massachusetts and Michigan experiment stations. Z.I.P. treatment of corn seed before planting will discourage crows from pulling germinating seedlings, company officials state. Information concerning the use of the product, method of application and other data may be had by checking No. 6535 on the coupon and sending it to Croplife.

No. 6536—Pesticide

A new pesticide called Crag Brand Mylone is now being used experimentally to combat three pests that plague growers of nursery stock, tobacco, vegetables and some flowers. The three pests are weeds, nematodes, and several soil diseases. Mylone, formerly called fungicide 974, was developed by Carbide & Carbon Chemicals Co., a division of Union Carbide & Carbon Corp. It is applied before planting either as a water suspension or dry powder and thoroughly tilled into the soil. Crag Mylone does not require plastic covers. Qualified researchers can obtain test quantities and detailed literature. Check No. 6536 on the coupon and mail it to Croplife.

No. 6538—Safety Folder

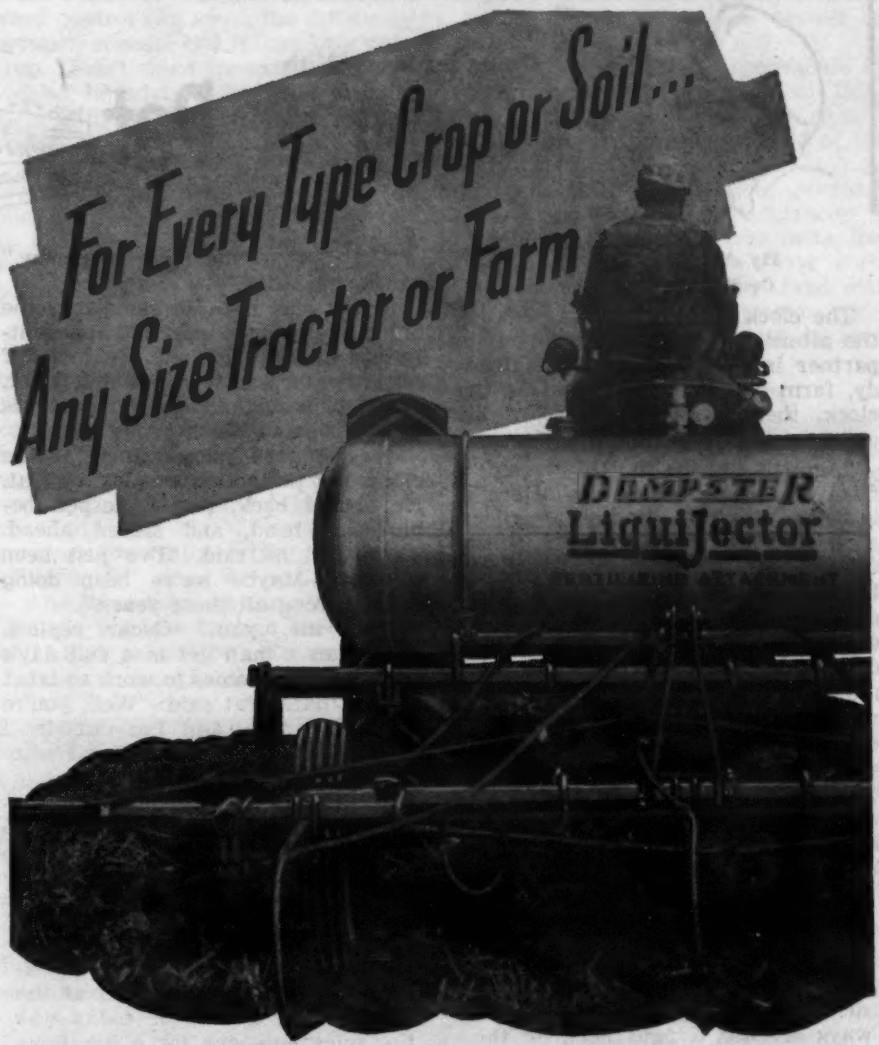
United-Heckathorn is now offering, free of charge, a revised edition of a wallet-sized safety folder including a revised list of antidotes for all the agricultural chemicals. The list contains antidotes for the newer agricultural insecticides such as Phosdrin, Thimet and Guthion. A new section concerning disposal of empty containers is included, together with a list of the latest approved safety equipment for handling of agricultural chemicals. Secure the folder by checking No. 6538 on the coupon and mailing it to Croplife.

No. 5643—Equipment Catalog

A new 28-page sales catalog is now available to acquaint dealers and prospective dealers with the 1957 Midland Co. line. The new catalog covers in detail the new 3.6 H.P. riding rotary mower, four rotary mower models, 2 to 2½ H.P., and eight tillers, ranging from 2½ H.P. on up to 6.8 H.P., including riding tiller models. Interested dealers may obtain their free copy of the catalog by checking No. 5643 on the coupon and mailing it to this publication.

NEW DOW TERMINAL

MIDLAND, MICH.—The Dow Chemical Co. has started construction of terminal facilities at Baltimore for storage and distribution of 50% caustic soda solution. Donald Williams, vice president and director of sales, said the terminal is expected to be in operation in early April. The company's two leased tankers, the Marine Dow-Chem and the Marine Chemist, will supply caustic soda to the terminal from the Dow Texas Division, he said.



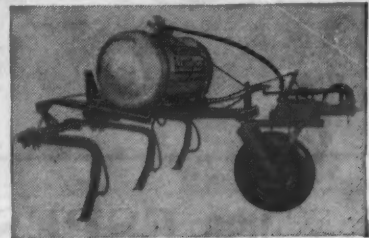
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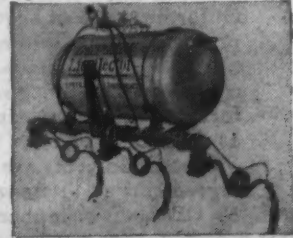
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Doing Business With

Oscar & Pat



By AL P. NELSON
Croplife Special Writer

The clock said that it was 2:30 in the afternoon, and Oscar Schoenfeld, partner in Schoenfeld & McGillicuddy, farm supply firm, looked at the clock, then threw down one of his eight finely sharpened pencils.

"Ach, this is the limit!" he said, a flush of anger on his face. "Here it is with almost half the afternoon gone and Pat isn't back from the Chamber of Commerce luncheon. Himmel, the rest of us work hard, eight hours a day, and that Irishman does good if he puts in five hours a day. And he wants to draw the same pay as me."

Ann Hydrous, the grey Maltese cat sleeping on top the safe, opened her sleepy eyes at this outburst, then burrowed her head in her paws and went to sleep again. Millie, the plump, nervous, ulcer inclined bookkeeper looked up, a worried expression on her face.

"Maybe there are some farmers at the Chamber meeting and Pat's trying to sell them some fertilizer," she suggested hopefully. Millie always dreaded a fight between the partners. Such a fight always necessitated taking one or two ulcer powders to settle her nerves.

"Ach, him and that selling. Every time he is late for work he says he has been selling. Himmel, what an excuse! We aren't getting any richer. And we have as many delinquent accounts as last year. In fact, we have 11 more. What will he say to that?"

"Oh, I think he is coming now," cautioned Millie.

And it was Pat. He came into the office-salesroom slowly, and apparently lost in deep thought. He took off his grey storm coat and bent felt hat, hung them up and sat down at his desk, a faraway look in his eyes.

Oscar glanced significantly at the clock, but the action was lost on Pat. He leaned back, hands clasped behind his head, and stared ahead. "Oscar," he said, "I've just been thinking. Maybe we've been doing things wrong all these years."

"Not me, you!" Oscar replied. "How can a man get in a full day's work when he comes to work so late?"

"Oh, that," Pat said. "Well, you're the inside man, and I'm outside. I have to make contacts. You realize that."

"I realize nothing," Oscar said, "except that money is not going into the bank fast enough to suit me—into the reserve fund. And too much money is uncollected. Whose fault is that?"

Pat also ignored this attempt to slant the conversation along an unpleasant path. "The speaker at the Chamber of Commerce today was the sales manager for a big Iowa company," he said. "He told some things that made me think. He said that business men should never get satisfied. The minute they get out of one debt they should saddle themselves with another worthy one."

Oscar snorted loudly. "Ach, that is foolish. Was ist das stuff they talk there? Gointodebt! Ach, theschmart

man works hard so he can get out of debt—not into more debt."

"That's it, Oscar. You hit it right on the head. The farm supplies dealer who gets out of debt, favors himself, and takes things too easy. If he would look ahead, plan ahead and then go into debt in order to carry out that program, he would work harder. And after 10 years he would be richer than if he just laid back and rested on his oars. That's exactly what the speaker said 'Saddle yourself with legitimate, future producing debt' was his idea. Then you'll expand into something that's really a success."

Oscar looked at his tall, lanky Irish partner as if the latter was "touched in the head."

"Ach, the business man who does that is crazy," he said. "He should have lots of money put aside to weather a depression."

"No," countered Pat. "This speaker said a business man shouldn't be too cautious, he should invest in the future, and not make his cash reserve too big."

"Huh," snorted Oscar. "Ours will never be too big, if you don't get out and collect once in a while. And we should spend more. Himmel!"

"He who aims at nothing usually hits it!" Pat quoted again. "That's what the speaker said. Oscar, maybe we should go ahead and expand. Maybe we should have a bigger show-room, put in more display facilities, show more fertilizer, seeds, garden supplies and allied lines. And put in better lighting and stage more sales."

Oscar's face went white. "More!" he yelled. "I say less. Ach, here I am trying to get you to cut down, and you want to expand. Stay home from those Chamber of Commerce meetings. Those dumheits are no good for us."

"Oscar, has it ever occurred to you that if we don't expand and put in better display and related lines, that some one else in our town may do it, and then we play second fiddle? Then we may have lost our chance to be first, to get the cream of the business. We may just have to tag along instead of riding at the head of the pack."

"Give me the money, and I will tag along till I retire," Oscar said sharply. "Those that head the big parade are most always just big bags of wind, Irishman."

Pat missed the double edged meaning, perhaps deliberately. "When a man is in debt he will work harder than if he has a lot of loose cash lying around, Oscar. The man with too much cash gets too conservative. We don't want that to happen to us."

"Ach, there is no danger of that around here," Oscar said bitterly. "We are lucky if we see cash long enough to know what it looks like—it goes out so fast."

"Just the same," Pat said contemplatively, "I am going to have an architect look this place over and make a rough sketch of what we can do to enlarge it for better display and more business when the time comes. We want to be ready to plunge, and not be caught napping."

Pat got up and walked into the warehouse to talk to one of the men about delivering an order, whistling as he went.

Grimly Oscar grabbed a copy of Croplife and looked into the classified ad section. "Ach, one of these days, I will see an ad for a fertilizer business for sale cheap!" he muttered. "Maybe the owner has to sell out—maybe for a can of sauerkraut. Then I will buy and get rid of this Irishman."

ALABAMA FIRM

(Continued from page 9)

farmers, Mr. Castleberry reports that 6-8-8 and 4-10-7 are in considerable demand for cotton as well as corn, while 4-10-7 is a favorable for fertilizing soybeans. The partners who operate this store are always urging gardeners and farmers to have their soils tested well in advance of the planting season. The result is that many customers send samples to the state laboratory at Auburn, and thus are able to buy fertilizer in line with the needs of the soils.

Many gardeners and farmers send soil samples in well in advance of the planting season, and thus can get the test results before they need to buy and apply fertilizer.

The store has a canopy which extends about five feet from the outer walls, and this makes outdoor display of farm supplies practical even during rainy weather. The partners find that when they can display considerable merchandise outdoors, they always attract more traffic.

Mr. Castleberry says that the company does a little wholesale business on field seeds, covering a considerable distance from Mobile. He travels several days per week in season to cover the dealers in that area.

Especially in spring the store sells many vegetable plants. Flower bulbs also move very well in spring and in fall. In fall, the store pushes lawn seeds, tools and fertilizer and does a good business as a result. The home owner who gets his lawn in shape in fall is much farther ahead on grass growth than the man who waits with this job until spring. Many homeowners are beginning to realize the advantages of renovating lawns in the fall, says Mr. Castleberry.

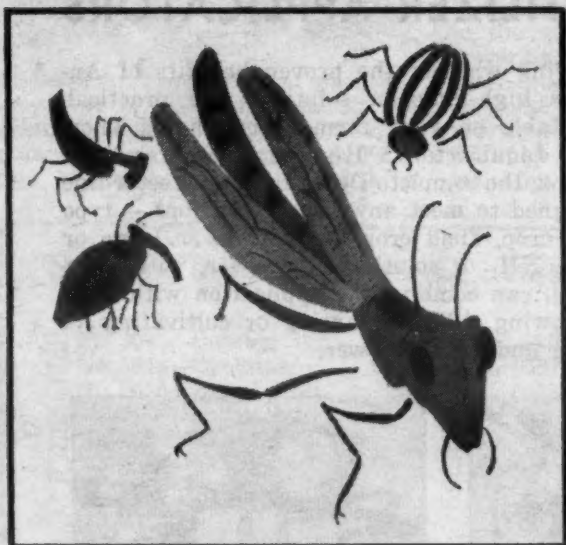
One traffic and profit building service at the store has been the renting of power lawn mowers. The firm experimented with both reel and rotary mowers and has finally settled for a heavy duty rotary as the one best suited for this kind of business. Such mowers usually get rough handling, and by different members of the family when out on a rental basis, and thus the mower needs to be very sturdy. It must be able to perform under very difficult conditions.

By having four heavy duty rotaries for rental service, Mr. Robinson and Mr. Castleberry find that their service cost is lower than other types, and customer satisfaction is greater. An 18 inch rotary rents for \$1.25 per hour, while a 22 inch cut rents for \$1.50. Renters must call for and bring back the mowers. No mowers are rented to persons who are not known to the management, or who cannot furnish the proper identifications. No deposits are required except in rare instances.

"We find that this power mower rental service not only brings extra income, but it brings us sales of fertilizer and insecticides and tools, too," reports Mr. Robinson, who is in charge of the power mower division. "We get many new and regular customers through the service."

Other revenue producers at this store include pet foods and dog supplies. The firm also exhibits its insecticides at various flower shows in the area, and finds that this promotional work wins new customers.

"We deliver once a day within the city of Mobile," says Mr. Castleberry "and deliveries out of town are made only when we have sufficient volume of orders for certain routes. Our trading area is constantly expanding. We have many farmers who come and get all their seeds and plants from us and some of their fertilizer needs. They find our store stocked better of these items than many country establishments."



to help keep
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FARM SERVICE DATA

Extension Station Reports

Alabama's corn crop this year will be in grave danger unless farmers wage an active campaign on corn borers, both the European variety and the southern corn stalk borer.

A new invader of Alabama corn fields is the European corn borer, whose forces have built up each year since 1950. So far this pest has invaded only 15 North Alabama counties, but nothing stands in the way of its march southward through the state.

The southern corn stalk borer has a strong foothold over the entire state. But the European one chalks up the most damage. W. A. Ruffin, Alabama Polytechnic Institute extension entomologist, reported that last year this insect stole 25% of the corn yield in some fields, and he called it as dangerous as the boll weevil to cotton.

Many pastures in Virginia are in dire need of fertilizer topdressing, says John F. Shoulders, associate agronomist at Virginia Polytechnic Institute.

Low production during the drouth years and lower farm prices have led farmers to reduce the amount of topdressing on pastures. Animals have been permitted to over-graze. As a result, Mr. Shoulders says, weeds and broomsedge have come back in many pastures.

It's bad business to short-change on fertilizer, the agronomist claims. He points to experimental pastures at the Middleburg branch of VPI Agricultural Experiment Station which received moderate applications of fertilizer each year and stood up well during the drouth.

Good pastures will give high yields of quality forage, two weeks earlier grazing in the spring, and two weeks later grazing in the fall. A system of pastures well managed and fertilized should furnish from 210 to 280 days of grazing each year. Good pastures will furnish 100 pounds of total digestible nutrients for less than \$1 while 100 lb. of total digestible nutrients cost \$5 from grain at \$75 a ton.

Mr. Shoulders says to make and keep good pastures by top-dressing them with fertilizer. Detailed recommendations for fertilizing forage crops grown in Virginia are included in Circular 533, "For Top Pastures—Topdress."

Dairymen and others using rye for grazing or early spring forage for livestock will find that relatively heavy applications of nitrogen in March will increase spring growth markedly. Around 60 lb. per acre of nitrate nitrogen have been found useful by A. L. Gardner and J. B. Washko, agronomists at the Agricultural Experiment Station, Pennsylvania State University. Split applications, 30 lb. before growth starts and 30 lb. later were no better in tests than a single heavy dosage.

A dead mesquite tree is worth more in economic value than a live one, declares G. O. Hoffman, Texas A&M extension range specialist. A live one, 10 inches in diameter, will use a ton of water to produce a pound of beans. That same ton of water could produce four pounds of good grass. For five cents the tree can be killed and if it doesn't, says Mr. Hoffman, it could represent a yearly loss approximately

The not-so-busy, not-so-hot winter months are ideal for getting rid of

brush and undesirable trees in pastures. Percentage of kill from the 2,4,5-T and diesel oil chemicals is better in the winter and, too, no crops which are harmed by them are growing then, says Mr. Hoffman.

Corn, the number two crop for Mississippi farmers, should be planted on good corn land, according to W. R. Thompson, Mississippi extension agronomist. "Every farm needs some corn for feed and food," he said.

Land selection, use of adequate fer-

tilizer and an adapted hybrid and weed control can mean the difference between success and failure of a corn crop. "Don't shoot for extremely high yields," he advised. "A good average yield of 50 to 75 bu. per acre is good enough."

A good average rate of fertilization is 500 lb. of mixed fertilizer under the corn and a side dressing of 60 to 90 lb. of nitrogen. A soils test will show exact amounts needed, Mr. Thompson pointed out.

Sufficient lime applied to cotton land may mean the difference between profit and loss for the Alabama cotton farmers. Jasper Jernigan, Alabama Polytechnic Institute extension agronomist, described the dollar invested in lime for cotton land as one that will pay big dividends in the farmer's over-all cotton production program.

And he added a warning to farmers who do not use enough lime in the soil that a cotton disease called

crinkle leaf is increasing throughout the state. This disease is caused by insufficient lime in the soil.

Mr. Jernigan cited experiments at five locations in the state in 1955, where the addition of one ton of lime to the soil gave an extra yield of 108 lb. of seed cotton per acre.

He said that a liming program would aggravate other deficiencies in the soil if the farmer was using low levels of fertilizer. On most state soils cotton should be fertilized with 50 to 60 lb. each of nitrogen, phosphorus, and potash per acre, he said.

WATER PROJECT

MINNEAPOLIS — Archer-Daniels-Midland Co., Minneapolis, announced that it has retained a chemical process consultant in connection with a water conservation project on which the company has done extensive research. He is Dr. Russell G. Dressler, San Antonio, Texas, a pioneer in water evaporation control research in the United States.

***This is the first advertisement in the new Monsanto campaign to help you sell LION AMMONIUM NITRATE**

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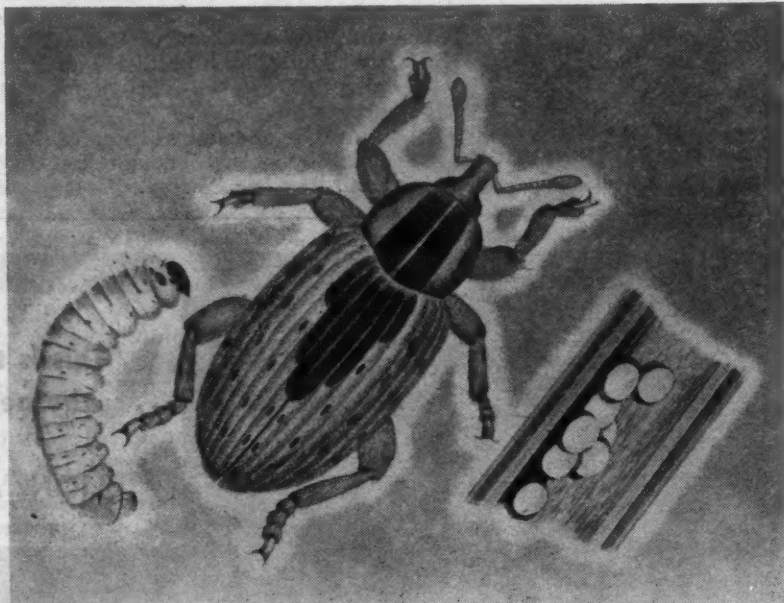
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BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



Alfalfa Weevil

How to Identify

Adult weevils are snout beetles, measuring about three-sixteenths of an inch in length. The younger adults are brown with a broad dark stripe extending down their backs from the front of their heads to more than half the length of their bodies. As the weevils age, however, many of them become uniformly dark brown, or nearly black.

Habits of the Weevil

This bug passes through the egg, larval, pupal, and adult stages. In most areas of the country, only one generation is produced each growing season, but in California and in some of the eastern states, they may have a partial second generation. Upon arrival of cold weather, adults crawl down into the crowns of alfalfa or seek other sheltered places in alfalfa fields. In the spring, each female lays several hundred eggs in clusters of from 2 to 25 eggs in each cluster. The eggs hatch in from 1 to 2 weeks in warm weather, but in cool weather they accumulate in the fields until favorable temperatures occur. Larvae appear in April and are numerous in the fields from early May until June. The larvae feed for 3 or 4 weeks, during which time they molt three times. They spin cocoons about a quarter-inch long on the alfalfa plants or on the ground, and pupate within these cocoons and change to adults in from one to two weeks.

Damage Done by Weevil

The larvae do the greatest damage to the first crop of alfalfa. They feed within the plant tips, on the upper leaves as they open, and then on the lower foliage, skeletonizing the leaves. Damaged leaves dry rapidly and the field takes on a grayish to whitish cast. After the first crop of alfalfa has been cut, the larvae crawl to the new shoots of the second crop and continue feeding. They retard new plant growth and may seriously damage the second crop. Adults also damage new shoots.

Control of Alfalfa Weevil

Both chemical and cultural means are advised for control of this pest. Insecticidal materials specified by USDA include both dusts and sprays. Among the dusts are 10% methoxychlor; 1% parathion, aldrin, or lindane; and 2½% heptachlor. For best control, USDA says, the alfalfa should be sprayed during the last half of April when the plants are from 10 to 15 inches tall and the tips are beginning to show damage. Heptachlor should be applied at 4 oz. an acre, USDA says. If a heavy reinfestation occurs not later than two weeks before harvest, a second application of heptachlor is advised. These rates should be checked with local authorities, however, to be well on the safe side as regards the possibility of residues at harvest time.

Illustration of Alfalfa Weevil through courtesy of Velsicol Chemical Corp., Chicago.

Previous "Bug of the Week" features have been reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.



By RAYMOND ROSSON

County Agent, Washington County, Tenn.

Production . . . distribution . . . consumption . . . Was it the "chicken or the egg" that came first? Naturally, production had to come before distribution, or did it? It would depend on what was being produced.

We all know production comes before consumption, or does it? Maybe consumption comes first . . . we ate breakfast this morning before we started to produce; but wait; the food we consumed for breakfast was distributed by many hands and machines and these machines had to be produced.

But the materials that went into the making of machines had to be distributed and the folks who mined the ore or sawed the timber or produced the fiber had to consume some food, that had to be produced.

There must be a starting point somewhere, and it seems to us, that point is definitely on the land, in the forests, mines or waters . . . so the first production must be food; produced from the land, with seeds, plant food, sunshine, air and water.

"In the beginning . . . waters, light, heaven, land, grass, herbs, fruit, fowls, fish, cattle and then came man, and to him was given this command . . . 'Be fruitful, and multiply, and replenish the Earth, and subdue it.'"

We asked a real friend of the land, "What was meant by subdue it?" And he said, "To make it mellow, or better, by adding humus, plant food, rotating crops and by proper cultivation." "It did not mean conserving" . . . To conserve land, means, "preserve from change: keep it as we found it" . . . Thanks to our farmers for making it better.

Laboratory Analyzes 854 Samples in 1956

SEYMOUR, TEXAS—A total of 854 soil samples were analyzed at the local soil testing laboratory in 1956, according to Roy L. McClung, county agricultural agent.

This was somewhat below the number expected, said Mr. McClung, but the severe drouth may have reduced the number of samples. Several farmers who got their soil tested early in the year and followed the recommendations of the laboratory reported increases of from 200 to 400 lb. of lint cotton per acre.

The Seymour Laboratory is operated as a branch of the Texas A&M College. Mr. McClung is now making an effort to get from 15 to 20 farmers in each of the nearby counties to put out test plots, then follow out the recommendations given by the laboratory. He says that farmers who take advantage of the laboratory's services will derive more benefit than from any one thing yet offered to them.

TOBACCO INSECT CONTROL

ATHENS, GA.—The University of Georgia has issued extension circular 113, "Tobacco Insect Control." According to C. R. Jordan, extension entomologist, this is the first time that tobacco insect control recommendations for the state have been printed in circular form.

Expansion Seen in Florida Vegetable Acreage

GAINESVILLE, FLA.—Eight thousand acres of land could produce about 2½ million bushels of tomatoes or 1½ million bushels of snap beans at current yields. This is the amount of land farm forecasters believe will be added to vegetable-growing area in Florida each year, if the present rate of expansion continues.

A prognostication of this kind means that by 1965, Florida growers would be planting 523,000 acres of potatoes, tomatoes, melons, beans and other vegetable crops instead of 445,000 now planted.

RESEARCH PARTNERSHIP

CLEVELAND—Formation of a research partnership between Ionics, Incorporated, of Cambridge, Mass., and Diamond Alkali Co., Cleveland, was announced here by Raymond F. Evans, chairman and chief executive officer of Diamond.

THE SOUTH

(Continued from page 9)

proved it can do wonders. On his beautifully hand-groomed acre, the Mississippi youngster grew 304 bu. of corn in 1955, becoming thereby the only corn grower to reach and exceed the mythical 300 figure; and has averaged 231 bu. on the same acre for the last five years. For comparison, the national average this year is expected to be 44 bu. an acre; the midwestern Corn Belt's is 54.6.

The South cannot yet match the big Corn Belt in average yield per acre. It has greatly boosted its yields, however, through the extensive planting of hybrid seed and better farm management practices as taught by the South's wide awake agricultural experiment stations.

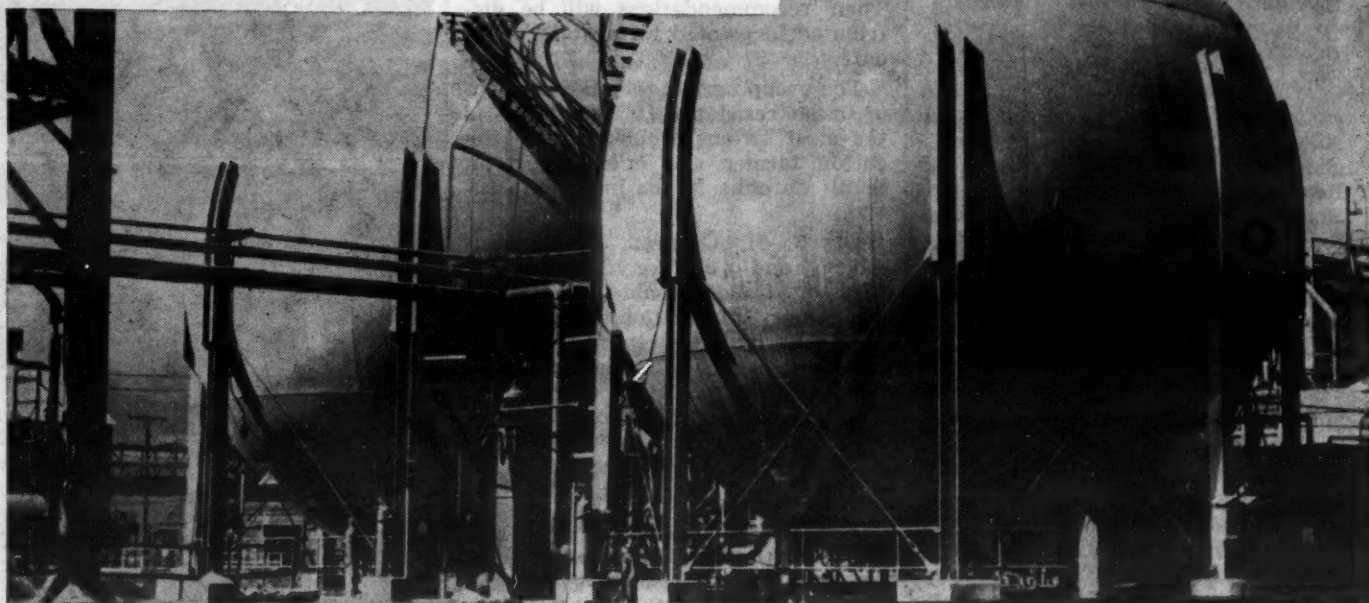
Dixie's cattle and poultry raising accomplishments have kept pace with her forward-march in corn. Georgia has become the top broiler

producing state. Contributing last year 177 million broilers (16% of the entire nation's output of 1.1 billion), Georgia was way out in front of the second state, Texas. Following Texas in broiler production were Arkansas, Delaware, North Carolina, Maryland, Alabama, Virginia, California and Mississippi — another almost solid showing for the new agricultural South.

South Carolina, while not the front-ranking state in beef cattle, has led the nation in percentage of increase in beef cattle numbers for the past seven years, recording a 79.3% advance in that period.

Those of us who wonder, now and then, whether our mushrooming population will get ahead of our ability to produce grain and meat, may well look to the South for reassurance. Progress in corn, poultry and livestock below the Mason-Dixon Line, if projected in the same ascending scale into the future, supports the belief that the good American diet will still be enjoyed in coming years.

Now expect even better service with UAL



At Du Pont's Belle Works, Belle, W. Va., spheres like these are used for storage of UAL solutions. A

continuing modernization and expansion program at Belle will further increase production and quality.

Du Pont continues modernization and expands facilities for URAMON®

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Good Outlook for Cotton Production in Mississippi Seen by NPFI Executive

STATE COLLEGE, MISS.—Optimism over the long-time outlook for cotton production in Mississippi was expressed here recently by Dr. Russell Coleman, executive vice president, National Plant Food Institute, Washington, D.C. He addressed some 200 champion cotton growers and agricultural workers from throughout the state at the eighth annual Mississippi Five-Acre Cotton Award Day program.

"We've got to purchase our cotton as cheaply as we can, and we must export more of it," he declared. There is a good prospect for further reducing and even eliminating the cotton surplus under the government's current export policy, Dr. Coleman said.

He reported that the idea of a two-price system for cotton is gaining support in Washington. This would offer producers a support price on the part of their crop grown for consumption in the United States, but would allow them to take their chances in planting additional cotton to compete in world trade.

Dr. Coleman joined the other speakers in praising the cotton contestants for demonstrating improved methods for efficiency and higher yields that increasing numbers of farmers are following. Predictions that the average cotton yield for the entire state can be a bale and three-fourths to two bales per acre within the next few years were made by several agricultural leaders.

"You have given to the state an example of what the good soil of our state will do if handled with intelligence and dedication," declared Dr. Ben Hilburn, president, Mississippi State College, who welcomed the visitors.

Si Corley, commissioner of agriculture, said, "We should take this achievement and carry it to every cotton farm in the state."

The five-acre demonstrations were begun with state-wide competition in 1949 to encourage more farmers to use the latest "know how" for making higher cotton yields, said T. M. Waller, associate agronomist of the Agricultural Extension Service, who presided. The average cotton yield for the entire state has increased from 338 lb. of lint per acre for the years 1941-1948 to 399 pounds for the past eight years, with yields for the past two years being the highest on record.

Since 1949, over 6,000 Mississippi Five-Acre Cotton Contest demonstrators have averaged 909 pounds of lint per acre.

"Our problem is to get the majority of our farmers to follow the complete cotton program as these demonstrators did," Mr. Waller declared. "To

do this, we need the continued help of everyone who is interested in cotton as a source of income."

Competition based on the total acreage of cotton planted on each farm will be continued in 1957, but the five-acre division of the contest will be discontinued, Mr. Waller announced.

J. S. McBee, county agent of Greenwood, told of two years' success with the Total Farm Average Yield Cotton Program in Leflore County.

"All farms do not have the same land capability," he explained. "We have tried to get into our program something that will recognize this as well as the man making a high yield."

The highest yield of 1,570 lb. of lint per acre on a five-acre demonstration was by J. T. Thomas, Sr. of Cruger. He also placed third in the Delta in the division for total farm averages with 1,123.41 lb. of lint, or well over two bales, per acre on the 524.9 acres that he planted in 1956.

Entomologists Preparing Control Recommendations For South Carolina

CLEMSON, S.C.—State and U.S. Department of Agriculture entomologists in South Carolina working on cotton insects met at Clemson recently to prepare cotton insect control recommendations for the 1957 season. Their recommendations will be distributed in printed form at an early date.

The group agreed that the problem of insect resistance to insecticides is the most serious problem facing the cotton farmer and entomologist in South Carolina in the immediate future.

Dr. J. H. Cochran, head, entomology and zoology department, Clemson College, said considerable preliminary information was obtained in 1956 for use in determining whether resistance is developing in other sections of South Carolina. If this information shows resistance to be developing, growers will be advised in special reports regarding control measures to be taken.

Dr. Cochran said that until resistance to the chlorinated hydrocarbons in an area has been established, entomologists in South Carolina recommend that growers continue with the material that they have been using in the past.

The 1956 results indicate that many reports of failure of the normally used cotton insecticides to give control of boll weevils during 1956 can probably be contributed to improper application, resistance, or climatic conditions rather than inferior formulations.



AT GEORGIA MEETING—The scenes above were snapped at the annual meeting of the Georgia Plant Food Educational Society held at the University of Georgia.

The top photo shows several of the new officers of the society. From left to right are G. L. Dozier, Cotton States Fertilizer Co., Macon, vice president; W. J. Cook, Adair and McCarty, Atlanta, vice president; W. H. Appleton, Potash Company of America, Atlanta, president, and John Cope, Reliance Fertilizer Co., Savannah, vice president.

Shown in the second photo discussing the role of education and industry in raising Georgia's farm income are, left to right, C. C. Murray, dean and coordinator, of the University of Georgia College of Agriculture; Russell Coleman, executive vice president, National Plant Food Institute; J. R. Johnson, extension agronomist and project leader, and W. A. Sutton, director of the Extension Service.

Contributions the Georgia Plant Food Educational Society can make to the program to increase Georgia's farm income were discussed by a panel shown in the third photo. From left to right are Clarence Walker, Coca-Cola Co.; Ralph Wehant, extension agronomist; T. Hayden Rogers, head of the agronomy department; J. R. Johnson, extension agronomist and project leader; Jim Bergeaux, extension agronomist, and J. W. Fanning, chairman of the agricultural economics division, moderator.

In the lower photo Mr. Wehant, center, holds a set of turn charts outlining a \$200,000,000 soil fertility program for Georgia farmers. Others in the picture, left to right, are John Porter, Southern Nitrogen Co., Savannah; J. Fielding Reed, American Potash Institute, Atlanta, and Mr. Bergeaux. A story of the meeting appeared on page 4 of the Jan. 28 issue of Croplife.

PEACH PEST CONTROL

CLEMSON, S.C.—A revised edition of Circular 360, Peach Pest Control in South Carolina, is now being distributed by the Clemson Extension Service. The circular was prepared by Dr. J. H. Cochran, head, Clemson entomology department; Roy J. Ferree, leader, Clemson horticulture ex-

tension work; Dr. H. H. Foster, assistant plant pathologist, and T. Skelton, assistant entomologist, South Carolina Experiment Station. W. C. Nettles, leader, Clemson insect and plant disease extension work; and D. H. Petersen, assistant pathologist, horticultural research branch, USDA, located at Clemson

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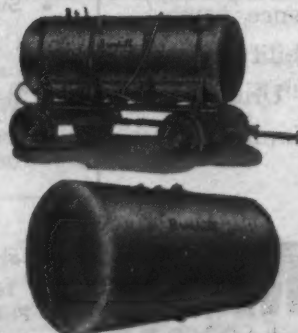
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DOANE SURVEY

(Continued from page 1)

shows that the greatest increase in the use of fertilizer will be in the South Central region, followed by the East North Central and the North Atlantic region; a decrease is expected to occur in the West North Central and Western Regions.

Plans to purchase fertilizer in 1957 by regions as compared with 1956:

	Per cent change
North Atlantic	+ 7.9
South Atlantic	+ 3.8
South Central	+ 14.7
East North Central	+ 8.9
West North Central	- 4.3
Western	- 9.8
United States	+ 4.7

The decline in potential fertilizer purchases in the West North Central and Western regions reflects a combination of drouth conditions last year resulting in carry-over of fertilizer, as well as the effects of acreage control and the Soil Bank program, Doane said.

Eighty five percent of all panel members plan to buy one or more types of fertilizer in 1957. The types are as follows:

Type of fertilizer	Plan to use in 1957 %	Increase, 1957 over 1956 %
Complete mixed fertilizer		
Dry type	77	1
Liquid	5	14
Nitrogen fertilizers		
Anhydrous ammonia ..	13	8
Liquid nitrogen solutions	4	28
Ammonium nitrate	31	2
Other nitrogen fertilizers	8	same

While approximately 1.5 million farmers are expected to use some type of agricultural chemicals in 1957, the survey shows that many farmers will use only one or two types.

Chemicals for controlling insects on livestock will be the type most frequently used, according to the survey. Fifty five percent indicated they planned to use them in 1957; forty two percent indicated they planned to use post-emergence type weed sprays this year.

Thirty six percent more of the farmers plan to use pre-emergence weed sprays and 25% more plan to use brush killers in 1957 as compared with last year.

The percent of farmers planning to use various types of chemicals in 1957, and the percent increase in users for each are as follows:

Type of chemical	Per cent planning to use in 1957 %	% Increase, 1957 over 1956 %
Pre-emergence weed sprays	13	36
Post-emergence weed sprays	42	7
Brush killer	21	25
Insect control on crops	41	3
Insect control on livestock	55	same

A wide variation in the intended use of pre-emergence weed sprays was reported—ranging from a high of 31% in the North Atlantic region to a low of 5% in the South Central region. Increase in number of users was greatest in the East North Central region.

Fifty six percent of the farmers in the West North Central region plan to use post-emergence weed sprays in 1957—a 6% increase over 1956. On the other hand, only 14% plan to use this type in the South Atlantic region—down 5% from 1956, according to the survey.

Farmers plan to increase their use of brush killers in all regions. Most frequent use is planned for the East North Central region, but a 61% increase in the number of users is indicated for the South Atlantic region.

The number of users of chemicals for control of crop insects will increase in all regions except the South Central region where only 59% of

the number using chemicals in 1956 plan to use them in 1957.

The Doane Countrywide Farm Panels is comprised of a balanced cross-section of the nation's full-time farmers, based on the farm population and farm characteristics of each region. The panel includes proportionate regional representation for all of the 2,100,404 farms in the nation with gross farm income of \$2,500 or more annually.

Excluded from the panel are: farmers with sales of farm products of less than \$2,500; residential farmers (those with annual sales of less than \$250 worth of farm products); part-time farmers (those selling products valued at from \$250 to \$1,200 annually, whose operator spends more

than 100 days in off-farm work or whose off-farm income exceeds the value of agricultural products sold); and institutional farms (those connected with a public or private institution). These four categories include 2,681,989 farms of which 1,679,298 are in the South Atlantic and South Central regions.

Doane Agricultural Service, Inc., was founded in 1919 as a farm management concern by D. Howard Doane, chairman of the board. Doane operations include: research and consultation on agricultural management and marketing; management of farms totaling more than half a million acres; publication of the nationally circulated Doane Agricultural Digest; appraising urban and rural properties; designing functional low-cost farm buildings; and conducting market research and field testing for farm equipment and other farm product manufacturers.

Guatemala Receives ICA Fertilizer Grant

WASHINGTON — International Cooperation Administration has announced a \$75,000 authorization to Guatemala for mixed fertilizer. Contract period ends April 14, with terminal delivery date April 30.

WISCONSIN NITROGEN DAY

MONROE, WIS.—A Nitrogen Day Institute will be held at Turner Hall here March 5, according to Prof. C. J. Chapman, Soils Dept., University of Wisconsin. An exhibition of nitrogen products will be shown with talks by specialists from the Universities of Wisconsin and Illinois. The morning session will be under the chairmanship of Myron Jeglum, Green County agent, and the afternoon meeting under O. J. Attoe, University of Wisconsin.

For greater volume, explain these facts to your customers. This ad will appear in the April Editions of Farm and Ranch (Southeast) and Progressive Farmer (Carolinas-Virginia)

MAKE \$ \$ \$820 EXTRA MONEY

AT NO EXTRA COST

Dixie farmers now have a dependable "at home" source of nitrogen . . . Southern Nitrogen's new plant at Savannah, Georgia. This new plant . . . built to serve Dixie . . . will provide you with high-quality, low-cost, money-making DIXIE NITROGEN . . . the kind of nitrogen that can mean more money in your pocket this harvest season . . . at no extra cost to you.

HERE'S HOW you can cash in this season:

FIRST:

You get 57% more nitrogen per dollar with DIXIE NITROGEN . . . for instance, you can buy

FOR THE SAME MONEY

just 1200 lbs
actual nitrogen
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OR

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gen, PLUS A
BONUS OF
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DIXIE 33.5%
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(prices used are for comparison only and are not quotations)

SECOND:

Let this bonus nitrogen grow money for you: Every day, more successful Dixie farmers prove that nitrogen pays off in extra profits of up to 5 times its cost. Look at how it mounts up at just a 40 lb rate on 30 acres of corn or cotton—a total of 1200 lbs actual N:

Your DIXIE bonus of	which is worth	can earn you up to	EXTRA MONEY AT NO EXTRA COST
690 lbs	\$82.11	\$410	
Now let's take a look at a recommended rate of 80 lbs—a total of 2400 lbs actual N:			
Your DIXIE bonus of	which is worth	can earn you up to	EXTRA MONEY AT NO EXTRA COST
1380 lbs	\$164.22	\$821.10	

YOU MAKE \$820 more money by using DIXIE nitrogen . . . without increasing your nitrogen fertilizer bill! And, don't forget, DIXIE NITROGEN pays off like this on all field crops and pastures.

HARD-WORKING DIXIE NITROGEN is double-barreled . . . the total nitrogen fertilizer. One "barrel" is nitrate nitrogen for fast, immediate growth . . . the other is ammoniacal nitrogen for bringing in the yields that single-shot nitrogen can't touch. DIXIE feeds your plants to full maturity. Low in bulk, it's easy to spread and makes labor light. Ask your dealer for DIXIE NITROGEN . . . today. It's the nitrogen that won't quit.



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Best Puts New Sulfuric Acid Plant on Stream

OAKLAND, CAL.—A new million dollar sulfuric acid plant has been completed by the Best Fertilizer Co., and has been on stream starting Feb. 11.

The plant has been constructed as a wing connected to the pelleted fertilizer plant at Lathrop, Cal., according to an announcement by Lowell W. Berry, president of the company.

The new addition will produce up to 200 tons of 98% sulfuric acid per day, the bulk of which will be used in the manufacture of pelleted ammonium phosphate fertilizers in the company's own process. Some excess production will be made available to outside users on the open market.

The new plant burns pure sulfur as the raw material, and produces the sulfuric acid by the "contact" method. The structures were designed by Bruce Wilcox, chief engineer, and constructed under the supervision of Frank Davidson, starting in June of last year.

Production of the acid means the entrance of Best Fertilizer Co. into the basic chemical field, and is expected greatly to strengthen the position of the producer in the fertilizer industry, by enabling it to supply its own raw materials, company officials said.

Plant manager in the Lathrop operation is Al Roecks, and assistant plant manager is Taylor Davidson.

LAWN INSECTS

WASHINGTON—The U.S. Department of Agriculture has published a new bulletin entitled "Lawn Insects and How to Control Them." The publication describes 33 lawn insects, tells how to locate them, lists insecticides for control and gives direction for use of the insecticides.

REMEMBER TO ORDER

CHASE BAGS

There's None Better!

Formation of Sole Chemical Corp. in Chicago Announced

CHICAGO—Formation of Sole Chemical Corp. as a specialized chemical marketing organization was announced recently by Solomon Epstein, president and general manager.

Mr. Epstein, former executive vice president and general manager of Emulsol Chemical Corp., said that the new firm will base its organic specialty sales program on a customized technical service program to the chemical processors, formulators and manufacturers in the fields of detergents, emulsifiers, germicides, foamers, anti-foamers and other surface active agents. The administrative headquarters and central development laboratories will be located at 27 E. Monroe St., Chicago.

The appointment of Herman Zagerinsky as manager of production of the firm also was announced by Mr. Epstein. Mr. Zagerinsky was formerly in production control at Emulsol Chemical Corp. and at Gross Egg Co., and will now have charge of various production projects of Sole Chemical Corp.

Soil Conference

FAYETTEVILLE, ARK.—The University of Arkansas has been selected as the site for the next Southern Regional Soil Survey Work Planning Conference. The meeting, which will be attended by Soil Conservation Service workers and representatives of the agricultural experiment stations in 13 southern states, will be held in Fayetteville from Oct. 7-11, 1957. Dr. R. P. Bartholomew, agronomist with the Arkansas Agricultural Experiment Station, has been elected chairman for the October conference, and Dr. H. C. Dean of Little Rock has been named vice chairman. Dr. Dean is state soil scientist with the Soil Conservation Service. These planning conferences are held each year as a means of contributing to a uniform system of soil classification, mapping and soil survey interpretations, according to Dr. Bartholomew. The Arkansas conference will be the fourth such meeting since the group was organized.

HOWARD B. CROTHERS DIES

MIDDLETOWN, DEL.—Howard B. Crothers, 50, of Middletown, owner of Crothers Brothers Co., a grain, feed and fertilizer business, died recently.



COTTON STATES ESA OFFICERS—New officers of the Cotton States Branch Entomological Society of America are shown above. From left to right are Norman Allen, Florence, S.C., chairman; Dr. Charles G. Lincoln, Fayetteville, Ark., vice president, and Dr. M. E. Merkl, Leland, Miss., secretary-treasurer.

Cotton States ESA Hears 82 Research Papers; Norman Allen Elected Chairman

BIRMINGHAM, ALA.—Norman Allen, Florence, S.C., was moved up from vice chairman to chairman of the Cotton States Branch, Entomological Society of America, at the 31st annual meeting of the branch held at the Dinkler-Tutwiler Hotel here recently.

Other new officers are Dr. Charles G. Lincoln, Fayetteville, Ark., vice chairman, and Dr. M. E. Merkl, Leland, Miss., who succeeds W. G. Eden, Auburn, Ala., as secretary-treasurer. Named members of the Executive Committee were H. S. Mayeux, Jacksonville, Fla., and J. K. Reed, Clemson, S.C.

One hundred sixty-five persons registered for the three-day meeting. A total of 82 papers was given. Included were invitational papers by Frank Holland, manager of the Florida Agricultural Research Institute and Dr. J. S. Roussel of the Louisiana Agricultural Experiment Station. A symposium on "Recent Insect Invaders" included discussions on the European corn borer by W. G. Eden, Alabama Agricultural Experiment

Station; the pepper maggot by C. E. Jordan of the Georgia Agricultural Extension Service; the white-fringe beetles by H. C. Young, U.S. Department of Agriculture; and the Mediterranean fruit fly by G. G. Rohwer, USDA. The other papers covered a wide variety of research work being carried on within the Cotton States Branch.

Other items of interest included an address by Dr. H. M. Armitage of Sacramento, Cal., president of the Entomological Society of America. Distinguished visitors included Dr. H. H. Nelson, executive secretary of the ESA and Dr. F. W. Poos, editor of the Journal of Economic Entomology. The Branch officially adopted a constitution and by-laws which had been prepared by a committee headed by Dr. J. H. Cochran of Clemson, S.C.

The program committee for the meeting included Hamilton Laudan of Savannah, Ga., V. M. Kirk of Florence, S.C., H. E. Scott of Raleigh, N.C., J. E. Zeigler of Millbrook, Ala., J. W. Wilson of Sanford, Fla., and L. C. Murphree, Starkville, Miss., chairman.

In charge of local arrangements for the meeting were N. R. Downey of Birmingham, J. E. Zeigler of Millbrook, and G. R. Williamson, Montgomery, chairman.

Disease Hits Willamette Valley Seed Potatoes

PORTLAND, ORE.—A larger than normal amount of Willamette Valley seed potatoes failed to pass Oregon State College greenhouse certification tests during recent weeks with the result that potato prices are moving lower and those for certified stock are expected to be higher than usual.

Farmers report that latest Oregon State College greenhouse tests have shown that many Willamette Valley Burbank seed potato plantings carry both leaf roll disease and mosaic to the extent they can't be certified.

SCS APPOINTMENT

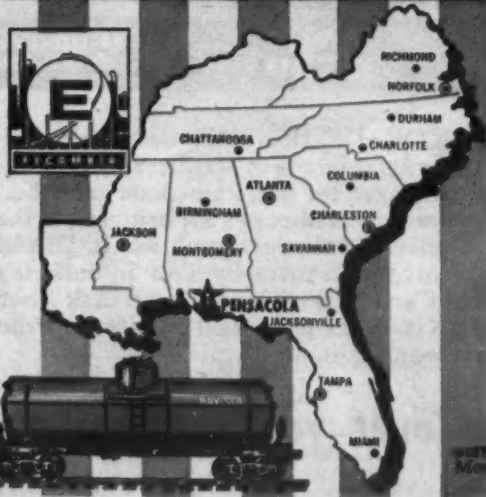
LUBBOCK, TEXAS—Homer Taff, area conservationist with the Soil Conservation Service, has been promoted to assistant state conservationist, with his new offices to be in Temple. Mr. Taff did much of the early research work in level border irrigation while he was a soil scientist. His position at Lubbock is being filled by James Abbott, who has been with the SCS since 1947.

Escambia Chemical, a Bright, New Name in Nitrogen

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AMMO-NITE AMMONIUM NITRATE FERTILIZER—33.5% NITROGEN



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Simmons Study of Farm Magazines is New Proof of...

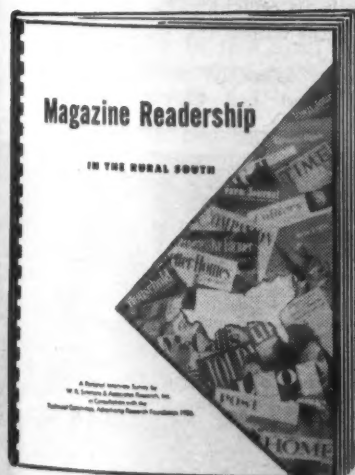
The Power of The Progressive Farmer in the South

By any dimension which measures the readership and influence of farm magazines, The Progressive Farmer is a preeminent FIRST in the South, according to a new, personal-interview survey by W. R. Simmons & Associates Research in consultation with the Technical Committee, Advertising Research Foundation.

In the 16 Southern states, The Progressive Farmer is *first* in readership, *first* in preference, *first* in service—FIRST by a wide margin over the other farm magazines studied. But this is only part of the story. The survey made many other important findings vital to your advertising plans.

For example, the study developed interesting data on duplication of readership. The Progressive Farmer has 4,480,000 readers, age 10 and over, in the rural South. Add Farm & Ranch to The Progressive Farmer and you add only 1,870,000 unduplicated Southern rural readers. Add Farm Journal to The Progressive Farmer and you add only 1,190,000 unduplicated Southern rural readers.

Study the results of the Simmons survey and you quickly see why The Progressive Farmer carries more advertising lineage than any other farm magazine in the U.S. More money was invested in advertising in The Progressive Farmer in 1956 than in any previous year in history.



Send for Your Free Copy of the 70-page book, "Magazine Readership in the Rural South," just off the press. It includes findings on Southern families in two categories—those engaged in farming and those living on farms and in rural communities of less than 2,500 population. It contains data on readership, preference and duplication of 16 magazines, including urban and farm magazines. Also useful information on family income, family composition and characteristics, TV ownership, etc. Write now for your free copy. It will be sent to you promptly without charge or obligation.

The Progressive Farmer is First in Readers

Here is the readership of three farm magazines among Southern people, age 10 and over, living on farms and in rural communities of less than 2,500 population:

FARM MAGAZINE	RURAL READERS	FARM READERS*
Progressive Farmer	4,480,000	3,100,000
Farm & Ranch	3,720,000	2,610,000
Farm Journal	2,550,000	1,790,000

*People engaged in farming.

The Progressive Farmer is First in Preference

Of the farm people who read both The Progressive Farmer and Farm & Ranch, 73.6% name The Progressive Farmer as first choice ...only 18.2% name Farm & Ranch.

Of the farm people who read both The Progressive Farmer and Farm Journal, 70.4% name The Progressive Farmer as first choice ...only 20.4% name Farm Journal.

Of the farm readers of all three magazines, 68.1% choose The Progressive Farmer...17.4% choose Farm Journal...and 14.5% choose Farm & Ranch.

The South Reads and Prefers

The Progressive Farmer



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MIDDLE WEST SOIL MEETING

(Continued from page 1)

duction increased by 793 pounds, when brome grass was fertilized with nitrogen on irrigated fields in his state. The tests, made at the Redfield, S.D., experimental farm, showed that the addition of 160 lb. nitrogen increased brome hay yields to 6,980 lb. an acre as compared to 1,640 lb. an acre on unfertilized fields.

When 80 lb. nitrogen were added, he said, brome hay yields were increased by 2,770 lb. an acre and the protein production boosted by 360 lb. an acre. The hay increase was 950 lb. an acre from 40 lb. nitrogen and the protein increase was 118 lb.

Fertilizer's carryover power gave 1956 barley yields as high as 47.8 bu. an acre, in other tests, where nitrogen-phosphate fertilizer was added for corn in the spring of 1955, on soil already high in potash.

The 47.8 bushel barley yield came from plots getting 1955 fertilizer applications that contained 80 lb. nitrogen and 60 lb. phosphate an acre. Barley yields were 40.5 bu. an acre when the preceding year's plant food application contained 60 lb. nitrogen and 60 lb. phosphate. The yields were 33.5 bu. when the fertilizer contained 40 lb. nitrogen and 60 lb. phosphate.

Fall-fertilized wheat outyielded spring-fertilized wheat in 1955 tests in Brookings county, S.D., Dr. Puhr reported. The fertilizer was broadcast on top of fall-plowed land, both in the fall and in the spring and was disced into the soil prior to spring seeding.

Dr. Stanley A. Barber, Purdue University agronomist, reported that row fertilization needs to be reinforced by broadcast applications of plant food for top yields of corn. He cited phosphate fertilization tests with

corn which indicate that top yields are not obtained by using only row fertilizer.

The need for additional phosphate, he said, is probably due to the fact that in the later stages of growth, corn roots penetrate considerably below the row-applied fertilizer and therefore require a supply of nutrients elsewhere in the soil.

Dr. Barber said that while formerly most of the fertilizer was applied in the row, greatly increased per acre rates of application in recent years have encouraged the trend toward adding at least part of the plant food by the broadcast method.

"In Indiana," he said, "we have obtained a fairly good relationship between soil test levels and the response of the crop to fertilizer."

"We have gone one step further and used the soil test as a basis to characterize the soils with respect to their relations with phosphate and potash. That is, all soils testing low in phosphate would tend to 'fix' about the same amount and therefore would show the same carry-over effect from phosphate fertilizer applications."

In the tests which began five years ago, Purdue agronomists established three different levels of available phosphate and three of potash by means of broadcast applications of these nutrients.

Row applications of phosphate and of potash have been made at several rates on each soil test level, he said. The row applications have been applied to corn and wheat in a four-year rotation of corn-soybean-wheat-hay.

Dr. Barber said that best yield re-

sults with soybeans have come from broadcasting most of the phosphate and using only small row applications.

Row applications of potash are effective in increasing corn yields and also the percentage of potash in the corn leaf. Since potash is relatively inexpensive, he noted, it may be more economical as well as a safeguard against salt injury, to apply at least a part of it broadcast.

The practice of applying most of the fertilizer broadcast and using small amounts in the row will probably not make much modification in the types and ratios of fertilizer applied, he went on. In the beginning, the balance of phosphate to potash application will have to be adjusted to bring into line the available phosphate and potash in the soil. Subsequent maintenance applications will be determined largely by the crops to be grown.

That nine out of ten farmers work their land too much before putting seed in the soil was pointed out in a talk by Walter J. Mumm, agronomist of Crow's Hybrid Corn Co., Milford, Ill. The pressing down of the soil by the wheels of heavy machinery tends to pack the soil instead of opening it up. "It plugs soil pores, breaks down desirable structure, slows drainage and aeration and makes it difficult for roots to penetrate," he emphasized.

Mr. Mumm described the minimum tillage program he directs on the 1,800-acre seed farms his company operates. This program includes the application of up to 1,000 lb. fertilizer an acre and the return of shredded corn stalks to the soil.

He declared that in order to maintain a high fertility level in the soil, nutrients taken out of the soil by the harvested crop, are replaced promptly. The importance of this practice was emphasized, and also the necessity for good physical condition of the topsoil which he said should be "loose and mellow" to a 12-inch depth. Corn yields average from 100 to 125 bu. an acre with this minimum tillage, high-fertility program, he reported.

A "scalped" field, stripped of its topsoil, produced 75 to 80 bu. of corn an acre, when good soil management methods including fertilizer were used in 4-year tests, Dr. J. F. Davis, of Michigan State University, summarized in his report presented at the meeting. Corn yields averaged only 25 bu. an acre before the soil-building program was begun on the scalped field, Dr. Davis said.

Dr. Davis' report summarized Michigan soil fertility research in 11 different areas of investigation. From this research he said that farmers could save \$3 to \$7 per acre in labor, fuel and machinery costs by making minimum tillage part of their crop production management program.

Summarizing results of Missouri

experiments during the past seven years on the timing and application of phosphate fertilizers, C. M. Woodruff, associate professor of soils, University of Missouri, Columbia, reported that heavy applications of phosphate can be profitable over a period of years on meadow crops. This is assuming that the soil has sufficient amounts of nitrogen and potash, he added.

In greenhouse tests, he said, 20% superphosphate was added to provide 20, 40, 80, 160, 320, 640 and 1,280 lb. P_2O_5 per acre on soil that was originally very deficient in phosphorus. The soil was limed, and nitrogen and potash fertilizer was applied at rates to provide 100 lb. each of nitrogen and K_2O , he said.

Mr. Woodruff estimates that over the 7-year period, red clover yields from the soil getting phosphate at the rate of 1,280 lb. an acre, were 10 times greater than on unfertilized soil. They were more than three times higher than the yields from soil getting the 160-lb. phosphate application; more than double the yield from the 320-lb. application and about 28% higher than from soil getting phosphate at a rate equivalent to 640-lb. an acre.

With phosphate worth 8¢ lb. and hay at \$10 a ton, an investment of \$89.60 in 1,280 lb. phosphate would give a net return of \$385.60 for the 7-year period, or an average of \$55.10 per year, he figured. An investment of \$12.80 in 160 lb. phosphate would thus give a net return of \$107.10 over the 7-year period, or \$15.30 per year.

At the end of the 7-year test, the red clover hay had removed as much or more phosphate from the soil than had been supplied in the fertilizer applications of 160 lb. or less, he reported.

The speaker emphasized that meadow crops require large amounts of phosphate in the soil to maintain satisfactory production over a period of years, indicating that in Missouri, a basic application of 500 to 600 lb. superphosphate an acre is required to establish suitable levels of phosphate on soils deficient in this nutrient.

Over a long rotation, on a soil properly fertilized at the start, an annual replacement application of from 25 to 50 lb. phosphate an acre each year is needed to maintain a satisfactory phosphate level in the soils, he concluded.

A big market for fertilizer lies in using plant food to grow higher quality protein feed for livestock, Dr. William A. Albrecht, head of the soils department of the University of Missouri, told the conventioners. Improvement in the feed's protein quality due to soil treatments, he said, depends in considerable measure on the crop on which the fertilizer is used.

Dr. Albrecht cited the difference between red clover and timothy

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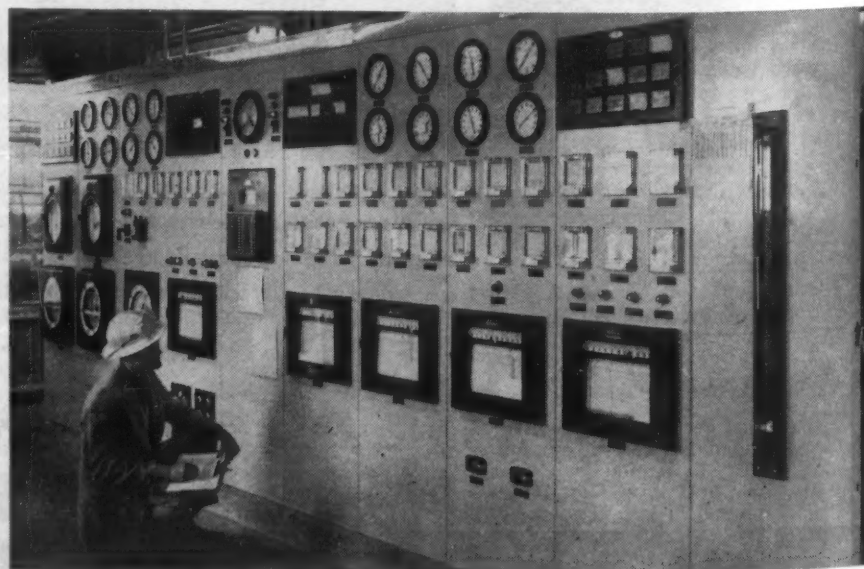
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SOUTHERN NITROGEN PLANT—Shown above is the automatic control panel at new \$14,000,000 Southern Nitrogen Co. plant, Savannah, Ga., which began producing ammonia Feb. 18. The plant will be turning out nitrogen manufacturing solutions by March and solid ammonium nitrate by April. See story on page 1.

may in feed value and protein quality, as indicated by Missouri tests. "Red clover in a rotation on well-fertilized soil," he said, "converted nitrogen into crude protein for much higher feed values than did well-fertilized hay in which nitrogen applications were part of the soil treatments. In timothy, the fertilizer treatments did not contribute as much to the protein quality as they did for the red clover hay."

Various soil treatments can make significant differences in the feed value of the proteins in red clover, he said. This was shown in the wide variation in weight gains of rabbits fed timothy hay from plots receiving different soil treatments.

Weight gains were 700% higher in four-week feeding period from red clover grown on well-fertilized plots than on those that had received lesser treatments. These top gains came from plots in a four-year rotation that was given magnesium limestone, crop residues and fertilizer according to soil test suggestions, following earlier treatments of lime and nitrogen, phosphate and potash fertilizer, he said. The red clover giving the low feed value came from plots in a three-year rotation that had a soil treatment of manure and supplemental nitrogen.

Dr. Albrecht reported that analyses of the red clover's chemical composition suggest that the various steps in the soil treatment were all essential contributors to the higher feeding value in the red clover for growing weanling rabbits.

"In terms of these analyses," he said, "there is the suggestion that while fertilizing for higher feed values will extend the market for fertilizer far beyond the area of using fertilizers for increased crop yields in bulk only, it will be also a tremendous challenge to learn how we can fertilize the soil to grow increased protein quality."

Describing "What Happens When Corn Root Meets Fertilizer Band," Dr. A. J. Ohlrogge, associate professor of agronomy, Purdue University, Lafayette, Ind., declared that although broadcast and plow-down applications of plant food can build up the soil's general fertility level, starter fertilizer in the band is required to spur the corn plant's early growth.

Band fertilization, he explained, involves putting the plant food in a continuous single band approximately 2 inches to the side of the seed and at seed level, or about one to two inches below the seed.

The first requirement for effective use of band-applied fertilizer is that it must feed the roots, so the root system can "proliferate" or develop the maximum number of additional shoots and branches in the band of plant food, the Purdue agronomist reported.

While nitrogen and phosphate are the most important nutrient elements in the starter fertilizer, he said, supplemental potash is needed on many soils to feed the young corn plant.

Discussing further the subject of fertilizer placement, Dr. W. H. Garman, chief agronomist of the National Plant Food Institute, Washington, D.C., declared that proper placement of fertilizer can help farmers in the Midwest to solve the problem of germination injury to corn crops. He said that such injury has become so extensive within the past two years that widespread attention has been focused on the matter of fertilizer placement.

Two factors are holding back widespread adoption by farmers of proper placement methods, Dr. Garman said. First is a lack of proper equipment on farms for placing fertilizer in bands at a safe distance from the seed; second, the lack of definite recommendations for placing fertilizer in all of the Midwestern colleges.

Only four Midwestern states have specific published recommendations for the band placement of starter fertilizer, he said.

Dr. Garman based his statement on a recent survey among Midwestern agricultural colleges conducted by the National Joint Committee on Fertilizer Application.

Another cause of germination failures in corn, he said, is that present day tractors travel much faster than the speeds for which planters and fertilizer attachments were made. As a result, skips in planting as well as cracking of the seed occur.

In addition, present day applicators place the fertilizer in with the seed, or even above it, when the tractor pulls at too high speed.

"Michigan studies indicate that for every mile in excess of three per hour a tractor is driven, the number of germinating corn plants is reduced by 800 to 1,000 per acre," he said.

Germination failures can be caused, too, by the amount of soluble salts in fertilizer. Since 1949 in the Middle West, the amount of nitrogen and potash in mixed fertilizer has nearly doubled, the Institute agronomist said.

As a result of the survey, he said, Midwestern colleges are unanimous in recommending that:

"Starter fertilizer for corn be placed in a continuous single band approximately 2 in. to the side of the seed and from seed level to 2 in. below seed."

In addition to the problems in corn, many others have arisen in the fertilization of small grain, Dr. Garman reported. Some states, he said, do not recommend the necessary amount of plant food because poor crop stands will result.

"Until grain drills which will properly separate the fertilizer from the seed are in the hands of farmers in the Middle West," he said, "the col-

leges will continue recommending less than the required amounts of plant food, and until farmers have the proper type of equipment on hand, they will be operating below top efficiency."

The meeting ended Feb. 15 with a presentation of agronomists' fertilizer and grade recommendations for the middlewestern states. This portion of the program was handled by Dr. Kermit C. Berger, professor of soils, University of Wisconsin, Madison, and chairman of Middle West agronomists.

Richard E. Bennett, Farm Fertilizers, Inc., Omaha, Neb., MWSIC president, addressed the group briefly and outlined the objectives of the Committee. He said that the organization exists to perform a service to agriculture in the 13 middlewestern states, and provides an opportunity for college agronomists and industry people to exchange ideas and know each other's problems better.

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

Turning Plant Food to Protein in Feeds

Pointing out agronomic facts of life that might lead to greater use of fertilizer materials in different crops, speakers at the recent annual meeting of the Middle West Soil Improvement Committee did a good job of describing the work done along soil fertility lines in the thirteen states comprising the MWSIC area.

Dr. W. A. Albrecht, widely-known soils expert from the University of Missouri, told of experiments made in his state to test the effect of fertilization on the protein content of livestock feed. He declared that a big market for fertilizer lies in using plant food to grow higher quality protein feed.

Although not all crops lend themselves as profitably to protein-increasing fertilization, Dr. Albrecht cited the case of red clover which, he said, performed outstanding feats in nutritional experiments. Grown on well-fertilized soil, red clover converted nitrogen into crude protein for much higher feed values than did well-fertilized hay in which nitrogen applications were part of the soil treatments, he said. Timothy, on the other hand, did not respond so well.

The Missouri professor told of tests made with rabbits, which in some cases registered weight gains 700% higher, during a four-week feeding period from red clover grown on well-fertilized plots, than on those that had received lesser treatments.

These top gains came from plots in a four-year rotation that were given magnesium limestone, crop residues and fertilizer according to soil test suggestions, following earlier treatments of lime and nitrogen, phosphate, and potash fertilizer.

The red clover giving low feed value came from plots in a three-year rotation that had a soil treatment only of manure and supplemental nitrogen.

Although the idea of increasing the food values of various crops through fertilization is not new, Dr. Albrecht's specific findings on the protein content of red clover as correlated with fertilization, is something for the marketing segment of the plant food industry to think about.

"Economic Illiteracy" Is Blamed for Surpluses

Advanced technology is not to be blamed for agricultural surpluses, said E. L. Peterson, assistant secretary of agriculture who spoke at a recent meeting in the State of Washington. "Science and technology have created abundance, not surpluses," he declared, but the thing that has created the surpluses, he said, is "economic illiteracy."

We suppose it is only natural for many to blame the use of fertilizers and pesticides for the abundance of our crops, but we think the word should be "credit," rather than "blame" when it comes to talking about adequate harvests.

The farmers who are making money today, are those who are using these modern agricultural tools to increase production per acre, and at the same time are reducing their unit cost on all commodities. Mr. Peterson is correct in his statement. Whether the agricultural crop is abundant or in surplus lies almost entirely in its relation to market conditions and distribution efficiency.

The extension services of both the Federal agencies and those at state and county levels are doing an effective job of educating the farmer on how to make full use of pesticides and fertilizers to assure a greater margin of profit on whatever crop is grown. The industry's representatives who deal with farmers can add to this flow of information and in so doing, may help to eliminate the feeling that fertilizers cause surpluses. The remarkable advances made in agricultural tech-

nology are the farmer's friend, and will become more so as he learns to utilize them.

The grower who would sidestep reality and shove aside the vast amounts of knowledge that come to him from every direction, is only kidding himself when it comes to making a living. Use of an ox team and a wooden plow would enable him to avoid having a surplus, but it would also put him out of the farming business in a hurry.

The program of education on economics is a thing that must be continued on all levels to reach the grower. According to many authorities, one of the most effective avenues of approach to the farmer is through the man who sells the pesticides and fertilizers. He is the one who has to clinch the argument. He has a real sales job to do.

Corn-Growing Contest An Educational Medium

An exclusive club which is growing less exclusive every year, is the Wisconsin Pace Makers Corn Club, of which the main qualification for membership is the demonstrated ability to produce 100 bushels of corn to the acre. This group, which held its annual meeting in Madison recently, attracted more than 300 farmers and dealers. The winning farmer produced an average of 186.9 bushels an acre on an eight-acre plot, but the runner-up was right on his heels, with an almost-as-good 186.0 bu. an acre.

There are few activities that can stir a farm group quite like competition of this type.

In the case of the Wisconsin competition, some 37 counties were represented in the 575 cornfields entered in the contest. Average yield for these 575 fields was 112.7 bu. an acre. Even the "losers" won!

The Pacemakers club was set up by the University of Wisconsin to encourage more efficient corn production. "Prescriptions" are made out farm by farm for the best yields, and farmers follow closely these recommendations and record production. These prescriptions are tailored for 100-bu.-an-acre yields, with complete fertilizer needs, cultivation practices, insect and weed control methods and a heavy planting rate are taken into account by the University specialists when making recommendations.

Fertilizer is applied after a carefully-taken soil test and high rates of seed are planted. Farmers can qualify for the annual citations by producing 100 bu. an acre, or 90 bu. an acre in those northern counties where there is a shorter maturity time.

Similar contests are held in some other states, but we would like to see it made more universal.

Liquid Fertilizer Sales Show New Pattern?

Fertilizer industry people watching closely the trends of the trade will be interested in a statement made by Dr. A. V. Slack, chief of the program development staff of Tennessee Valley Authority, at a recent meeting at Wilson Dam, Ala.

He reported that the number of plants making liquid fertilizers had nearly doubled in number during 1956, and added that the pattern is toward the establishment of small plants with capacities ranging from 1,000 to 3,000 tons of production a year, for local distribution.

It will be interesting to note whether this pattern continues in 1957, or tends to turn in some other direction. Our observation leads us to believe that the trend is likely to be more pronounced in coming years because of a number of factors. Not the least of these is the freight rate situation and the demand for local service and custom operation in the community.



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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DONALD NETH

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MEETING MEMOS

March 12-13—Missouri Aerial Applicators Short Course, University of Missouri, Columbia, Mo.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

EDITOR'S NOTE—The listings above are appearing in this column for the first time this week.

Feb. 26—Kansas Pesticide Dealer and Custom Applicator Conference, Williams Auditorium, Umberger Hall, Kansas State College, Manhattan, Kansas.

Feb. 27-28—Sixth Annual Pesticide Chemicals School, Clemson Agricultural College, Clemson, S.C.

March 4-5—Fertilizer Section, Southern Safety Conference, Hotel John Marshall, Richmond, Va. Quentin S. Lee, Cotton Producers' Assn., Atlanta, Ga., general chairman.

March 5—Nitrogen Day Institute, Turner Hall, Monroe, Wis.

March 5-6—Western Cotton Production Conference, Hotel Westward Ho, Phoenix, Ariz.

March 6-8—National Agricultural Chemicals Assn., Spring Meeting, Fairmont Hotel, San Francisco, L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

March 11-12—Southwestern Branch, Entomological Society of America, Annual Meeting, Gunter Hotel, San Antonio, Sherman W. Clark, 811 Rusk Ave., Houston 2, Texas, Secretary-Treasurer.

March 13-15—New Jersey Mosquito Extermination Assn. 44th Annual Meeting, Hotel Haddon Hall, Atlantic City, N.J., Dr. Bailey B. Pepper, Rutgers University, Secretary.

March 14-15—Oregon Feed & Seed Dealers Assn., Annual Meeting, Multnomah Hotel, Portland, Ore.; March 14 Morning Program Set Aside for Fertilizer Topics.

March 27-29—North Central Branch of Entomological Society of America, Annual Meeting, Des Moines, Iowa.

April 2—Western Agricultural Chemicals Assn.; Spring Meeting, Hotel Biltmore, Los Angeles, Cal.; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

April 14-15—Fifth Annual California Fertilizer Conference, Fresno State College, Fresno, Cal. Sponsored by California Fertilizer Assn., Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

June 9-12—National Plant Food Institute, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 17-19—Fifteenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Dinkler-Tutwiler Hotel, Birmingham, Ala., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 23-26—American Society of Agricultural Engineers, Golden Anniversary meeting, Michigan State University, East Lansing, Mich.

June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. R. R. Bertramson, Washington State College, Pullman, Wash., chairman.

July 10-14—Plant Food Producers of Eastern Canada, Manoir Richelieu, Murray Bay, Quebec.

July 17-19—Southwestern Fertilizer

Conference and Grade Hearing, Galvaz Hotel, Galveston, Texas.

Oct. 2-4—Eleventh annual Beltwide Cotton Mechanization Conference, Shreveport, La.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco. Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Dec. 11-13—Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Safety Record Set by Coronet Phosphate Mine

PLANT CITY, FLA.—The Tenoroc mine of the Coronet Phosphate Co., a division of Smith-Douglass Co., Inc., has set a new record by completing the year 1956 without a single lost-time accident, the company reports. The mine, located east of Lakeland, Fla., operates three large draglines, a washer and flotation plant, a drying plant, and a grinding plant. All of Coronet's phosphate rock output is mined and shipped from this location. The last lost-time accident occurred March 18, 1954. Since that time 1,156,000 man hours have been worked without a disabling injury.

"These operations are hazardous, but the employees at this mine have put into practice a conscientious safety program, which has resulted in this new record," says Gaither Newnam, safety director, who attributes much of their success in safety to good housekeeping practices. "This means the workmen have kept their plants and grounds in good repair and free of hazards," he says. "The employees have also demonstrated their enthusiasm for and desire to carry out a good safety program by instructing new employees in ways of working safely."

In recognition of this safety record of two years without a lost-time accident, the men of the Tenoroc mine and their families were given a barbecue supper recently. Sid Rydell, president of Coronet, was present. For the year 1955 the National Safety Council awarded this mine a plaque in recognition of its accomplishments in the field of mine safety.

Bagpak Announces Personnel Changes

NEW YORK—In order to better coordinate the production activities of its plants, the Bagpak Division of International Paper Co. has appointed Chester B. McCord as manager of manufacturing and Asa S. Morgan as assistant manager of manufacturing. Both will headquarter at Camden, Ark.

The Bagpak Division manufactures multiwall sacks in plants at Mobile, Ala., Bastrop, La., and Camden, Ark., with a fourth plant under construction at San Jose, Cal.

Mr. McCord joined Bagpak in 1934. He was made plant superintendent at Bastrop in 1948 and manager of all three plants in 1955. Mr. Morgan, a veteran of 24 years of service with the division, was superintendent of the Mobile plant prior to his new appointment.

J. A. Horne was named superintendent of the Mobile plant to replace Mr. Morgan.

CONTROL DEMONSTRATION

ST. AUGUSTINE, FLA.—A pine bark beetle control demonstration has been established near St. Augustine.

Spencer Sales Up, Profit Down in First Half of Fiscal Year

KANSAS CITY—Profit margins narrowed in the first six months of the fiscal year ended Dec. 31, Spencer Chemical Co. has reported. Sales increased \$1,210,718 and net profits decreased \$77,961 from the corresponding period of a year earlier.

Sales of polyethylene were more than double those for the same period a year earlier and accounted for the increase in total sales. The severe and cumulative drouth conditions which have prevailed in much of the company's marketing area had a depressing effect on sales of nitrogen products, the firm said.

The company's volumes are normally lower during the first half of its fiscal year because of the seasonal demand for nitrogen products. It now is entering the period of peak demand for these materials and expects a substantial rise in these sales during the second half of its fiscal year ending June 30, 1957.

Net sales in the six months ended Dec. 31 were \$18,699,928, compared with \$17,489,210 a year earlier. Net profit in the same 1956 period was \$1,527,951, equal to \$1.10 a common share, after preferred dividends, as compared with \$1,605,912, or \$1.16 a share in the six months ended Dec. 31, 1955.

The gain in polyethylene sales in the second quarter ended Dec. 31 was not sufficient to offset the drop in sales of nitrogen products. Sales for the quarter were \$9,629,256, compared to \$9,771,514. Net profit for the quarter was \$794,432, equal to 58¢ a common share, against \$1,041,844, or 79¢ a share, a year earlier.

Directors have voted a quarterly common dividend of 60¢ a share and the quarterly preferred dividend of \$1.05 a share, both payable March 1 to holders of record Feb. 11.

INFORMATION CARD

CLEMSON, S.C.—Information Card 87, Plant Food Recommendations for South Carolina Field Crops, is now being distributed by the Clemson Extension Service. The cards are of the poster type. They are designed to be posted in the offices, stores, warehouses or other places of business that handle farm seeds and fertilizers, in the offices of county extension workers and other agricultural agencies, in classrooms of vocational agriculture teachers, in banks and other public places.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care of this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$10 per column inch. All Want Ads cash with order.

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CLASSIFIED ADVERTISING

Rockland Chemical Co. Adds Two Salesmen

WEST CALDWELL, N.J. — The Rockland Chemical Co., West Caldwell, N.J., has added two sales representatives to its staff in the Northeast.

Charles H. Pope, Jr., will represent the agricultural chemical firm in Vermont, New Hampshire and western Massachusetts. He is a graduate of Middlebury College and formerly sold pharmaceuticals in the midwest.

John L. Carter, will assist another Rockland representative, Jack Gordon in the western New York territory. A graduate in animal husbandry from the University of Maryland, Mr. Carter formerly worked with feed concerns in western New York.

TREE SHORT COURSE

ST. PAUL—A tree protection short course has been scheduled March 5-6 at the St. Paul Campus of the University of Minnesota.

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Gates Rubber Co.		Stewart-Warner Corp.	
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Hahn, Inc.		Tennessee Corp.	
Henderson Mfg. Co.		Union Bag-Camp Paper Corp.	4
Hercules Powder Co.		U. S. Phosphoric Products Division	
Hough, Frank H., Co.		U. S. Potash Co.	
Hypro Engineering Co.		U. S. Rubber Co., Naugatuck Chem. Div.	
Industrial Fumigant Co.		U. S. Steel Corp.	
International Minerals & Chemical Corp.	21	Velsicol Chemical Corp.	
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